STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION AND HOUSING
DEPARTMENT OF TRANSPORTATION

TRAFFIC MANUAL

CHAPTER 3
ACCIDENT AND ROADWAY RECORDS

Caltrans

Caltrans Metric

August, 1996

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ACCIDENT AND ROADWAY RECORDS

Basic Information 3-01

3-01.1 Introduction

Three elements are considered in accident analysis:

1. The driver;

2. The vehicle; and

3. The roadway and its related environment.

Accident records contain information relating to each of these three elements that may be studied by the engineer and others.

3-01.2 Legal

Title 23 United States Code (USC) 402, enacted in 1966 and administered through Title 23 Code of Federal Regulations (CFR) 1204.4, and California Vehicle Code (CVC) Section 2900 et seq. requires the State of California to have a data collection system as part of the process to reduce the number and/or severity of accidents on roads in the State of California.

In response to Title 23, USC 402, the State of California developed the Traffic Collision Reports (TCR's) used by police agencies to collect and compile accident data. When the State developed the TCR's, they also developed the accident database (SWITRS) that resulted from the data collected and compiled from the traffic collisions reports. The State also developed the Traffic Accident Surveillance and Analysis System (TASAS) used by the California Department of Transportation (Caltrans) to analyze accident, traffic, and highway data collected and compiled by Caltrans.

Title 23 USC 152, enacted in 1973, administered through Title 23 CFR 924, requires the State of California to have a process whereby, through the use of a survey of all public roads, the responsible agencies of the State will identify and analyze locations, then prioritize, schedule, implement and evaluate safety improvements to roadways which are intended to reduce the number and/or severity of accidents on all public roads.

In response to Title 23 USC 152, the State of California has developed a process that utilizes the TASAS data base, including the accident information collected and compiled into it, to effectively reduce the number and severity of accidents on all highways under the jurisdiction of the State. To aid the further analysis of locations investigated, Caltrans maintains a copy of the TCR's.

Absolutely critical to the process developed by the State to meet the needs of the above Federal laws are the Traffic Collision Report utilized in the date bases maintained by Caltrans, the California Department of Highway Patrol (CHP) and numerous local agencies within the State of California. While the reader is referred to the TASAS data system for general information on trends and location to be studied, Traffic Collision Reports must be used for the detailed analysis necessary for the development of projects.

The California Vehicle Code (CVC) Section 20008, Duty to Report Accidents, requires a centralized collection of data for fatal and injury motor vehicle accidents. The driver of a vehicle involved in an injury or fatal accident is required to make (or cause to be made) a written report within 24 hours after the incident. Local police units are required to forward reports for the previous

month to the California Department of Highway Patrol (CHP) in Sacramento by the fifth day of the month.

Section 16000 (CVC), Report Required, requires the driver of every motor vehicle involved in an incident which resulted in damage to the property of any one person in excess of $500 or in bodily injury or in death of any person shall within 10 days report the accident on an approved form to the California Department of Motor Vehicles (DMV).

3-01.3 Reporting Level

The reporting level in the State of California varies over a broad range. Factors having a significant influence on reporting level are as follows:

1. Severity: For fatal accidents, the reporting level is 100 percent; for injury accidents, the reporting level is 90 percent; and for property damage only, the reporting level is 40 percent.

2. Jurisdiction: The reporting level varies from one reporting unit to another.

3. Number of Parties Involved: The reporting level of multi-vehicle accidents is higher than it is for single vehicle accidents.

4. Time of Day: The reporting level of nighttime accidents is higher than it is for daytime.

Accident Reports 3-02

3-02.1 General

Accident Report forms are designed by various jurisdictions to satisfy various objectives.

3-02.2 Uniformity

The Federal Highway Safety Program Standards require that accident records systems maintained on a local level must be compatible with the statewide system which in turn must interface with elements of a national system. This requirement plus the increased study and analysis on a county-wide, regional and statewide basis give weight to the desirability of a small number of acceptable "standard" forms.

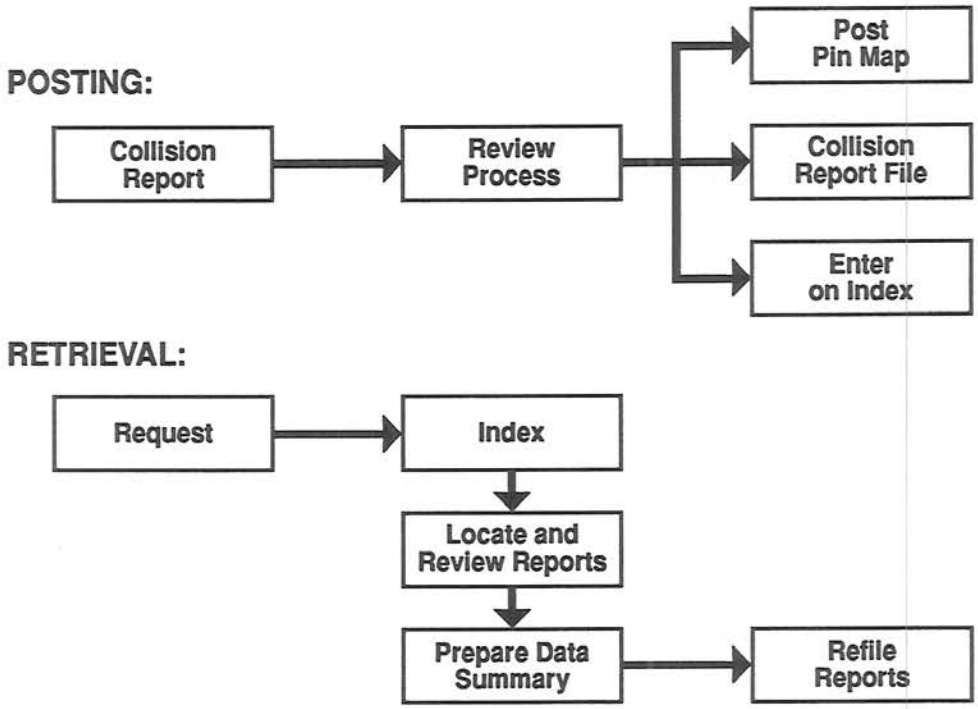
The most widely used form in the State of California is the form CHP-555. This form, the CHP Collision Investigation Manual (CIM), and training in usage of the forms and manual are provided by the CHP at no cost to the local police agencies to encourage complete and uniform reporting.

3-02.3 Accident Reports Confidential

Section 20014 of the Vehicle Code requires reports made to the CHP shall be avilable for the confidential use of the Department of Motor Vehicles, Caltrans, and local authorities having jurisdiction over highways. Information from individual reports and/or data should be considered as confidential.

Summary data and copies of reports may be studied by agents of non-public agencies under controlled conditions for valid research purposes.

Figure 3-1
TYPICAL ACCIDENT RECORD SYSTEM



Accident Record Systems 3-03

3-03.1 General

Various cities within the State of California have had experience with several types of records systems. The system that best fulfills the requirements of a particular jurisdiction can vary from a manual plotting and filing system for a compact area with very low traffic volumes, to a very complex computerized system for a large urban area or statewide agency.

3-03.2 Manual Accident Record System

The simplest manual system may consist of a pin map (accidents are plotted) and an accident file (reports are stored in date order or report number order, or a combination of both). A card or binder index is created for the reports. See Figure 3-1.

The pin map may use pins of different size and color to indicate months of the year and accident severity. Manual systems are satisfactory where the volume of data is very modest and the cost of electronic data processing equipment is not warranted.

3-03.3 Electronic Data Processing (EDP) Accident Record Systems

As the volume of data increases, manual systems become cumbersome and labor intensive and conversion to EDP becomes advantageous.

In conversion, a considerable effort must be expended to convert at least a portion of the manual system file into a historical EDP accident data base.

The same effort of conversion to create an historical accident data base is sometimes required

when an elementary EDP system is modified or is replaced by a more sophisticated system.

An example of a very large basic EDP system is the "Statewide Integrated Traffic Records System" (SWITRS) administered by the California Highway Patrol. The Caltrans "Traffic Accident Surveillance and Analysis System" (TASAS) is an example of a large dual data base EDP system. California counties or cities with large EDP systems include Alameda County and the cities of Los Angeles, San Diego and San Jose.

3-03.4 SWITRS General

The Statewide Integrated Traffic Records System (SWITRS) is a statewide records system. SWITRS is a centralized accumulation of data for fatal and injury motor vehicle traffic accidents. In addition, a large proportion of the reported property damage only accidents are also processed into SWITRS. The reports are generated by over 100 CHP areas and over 500 city police departments, sheriffs offices and other local jurisdictions.

The processed volume of reports is about 2,500 per working day. All reports are checked for completeness, coded, key punched and processed into a computer data base. The computerized data is then available for quarterly and special reports for participating cities and counties and other State agencies.

3-03.5 SWITRS Data to DMV

The California Department of Motor Vehicles (DMV) receives driver related data for its driver record files. All accidents processed through SWITRS have information transferred to drivers licenses and this becomes part of public record. This information can be made available to authorized agencies by contacting DMV.

3-03.6 SWITRS Data to Caltrans

State highway related collision reports receive additional coding as to objects struck and location details. Caltrans receives this State highway related data on a weekly basis for the Traffic Accident Surveillance and Analysis System (TASAS). The accident data transmitted to Caltrans does *not* contain names, drivers license numbers, addresses, vehicle license numbers, or data on age and sex of drivers and victims.

3-03.7 SWITRS Quarterly Output Reports

SWITRS produces eight quarterly reports several weeks after the end of the quarter as follows:

Report No. 1 - Type of involved party for accidents and victims.

Report No. 2 - Accidents by day and hour of day.

Report No. 3 - Primary collision factors for accidents and victims.

Report No. 4 - Motorcycle, bicycle, and pedestrian accidents and victims by time of day.

Report No. 5 - Alcohol involvement by age and sobriety of involved party and by accident type.

Report No. 6 - Pedestrian involved accidents, location details and victim data.

Report No. 7 - Bicyclist involved accidents, location details and victim data.

Report No. 8 - Accident location details and involved party data year to date.

Examples of each of the preceding reports and a discussion of the data items are contained in the SWITRS Users Guide available from the California Highway Patrol.

Reports 1 through 5 have parts A and B which are cumulative year to date, and latest quarter, respectively. These reports (1 through 5) are statistical summaries only, whereas reports 6, 7 and 8 are individual listings. The year end Report 8 could be used by local authorities for traffic engineering evaluations.

3-03.8 SWITRS Output Reports and Other Services

Detailed explanations of other SWITRS reports are contained in the SWITRS Users Guide, Chapters 4 and 5. One report that may be of use for traffic accident analysis is the General Retrieval Program (GRP). If specific data is required for traffic analysis or special research studies, the data may be obtained by use of GRP. Most of the collision report data can be obtained by GRP and can be formatted to an individual listing or a summary listing.

Caltrans Traffic Accident Surveillance and Analysis System (TASAS) 3-04

3-04.1 TASAS General

TASAS is a sophisticated version of an EDP traffic records system. It has an accident data base (AXDB), linked to a highway data base (HDB) which contains description elements of highway segments, intersections and ramps, access control, traffic volumes and other data. TASAS serves the needs of many offices within Caltrans and also provides roadway and/or accident information for other associated State and local agencies.

Detailed instructions as to coding, processing, and data retrieval are contained in the TASAS manuals, Section 100 and 200, TASAS Accident Data Base Support Processing Procedures, and other compilations.

3-04.2 TASAS Data Bases

All of the records in the TASAS data bases are stored in a manner that each record can be accessed directly. The two major data bases are as follows:

1. TASAS Accident Data Base (AXDB).

2. TASAS Highway Data Base (HDB).

TASAS Accident Data (AXDB) 3-05

3-05.1 AXDB General

This data base contains specific data for accidents that are State highway related. Each accident record contains a ramp, intersection or highway kilometer post marker address that is a key to tie to the Highway Data Base[1] (HDB).

The master file contains records for 10 years plus the current year. The processing of collision reports is shown diagrammatically in Figure 3-2.

3-05.2 Content Accident Data Base

The individual records in the AXDB contain two basic types of information which are:

1. General accident information including:
   a. Location
   b. Time and Date
   c. Severity
   d. Primary Collision Factor
   e. Environmental Items
   f. Roadway Conditions
   g. Type of Collision
   h. Number of Vehicles Involved
2. Information for each party including:
   a. Party Type
   b. Condition of Party
   c. Actions of Party
   d. Casualties Per Party

There are some AXDB records that do not contain any "party" information and only partial general accident information. Each accident record may contain an entry for each party up to a maximum of nine.

[1] The TASAS Highway Data Base is currently available only in US values. Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.

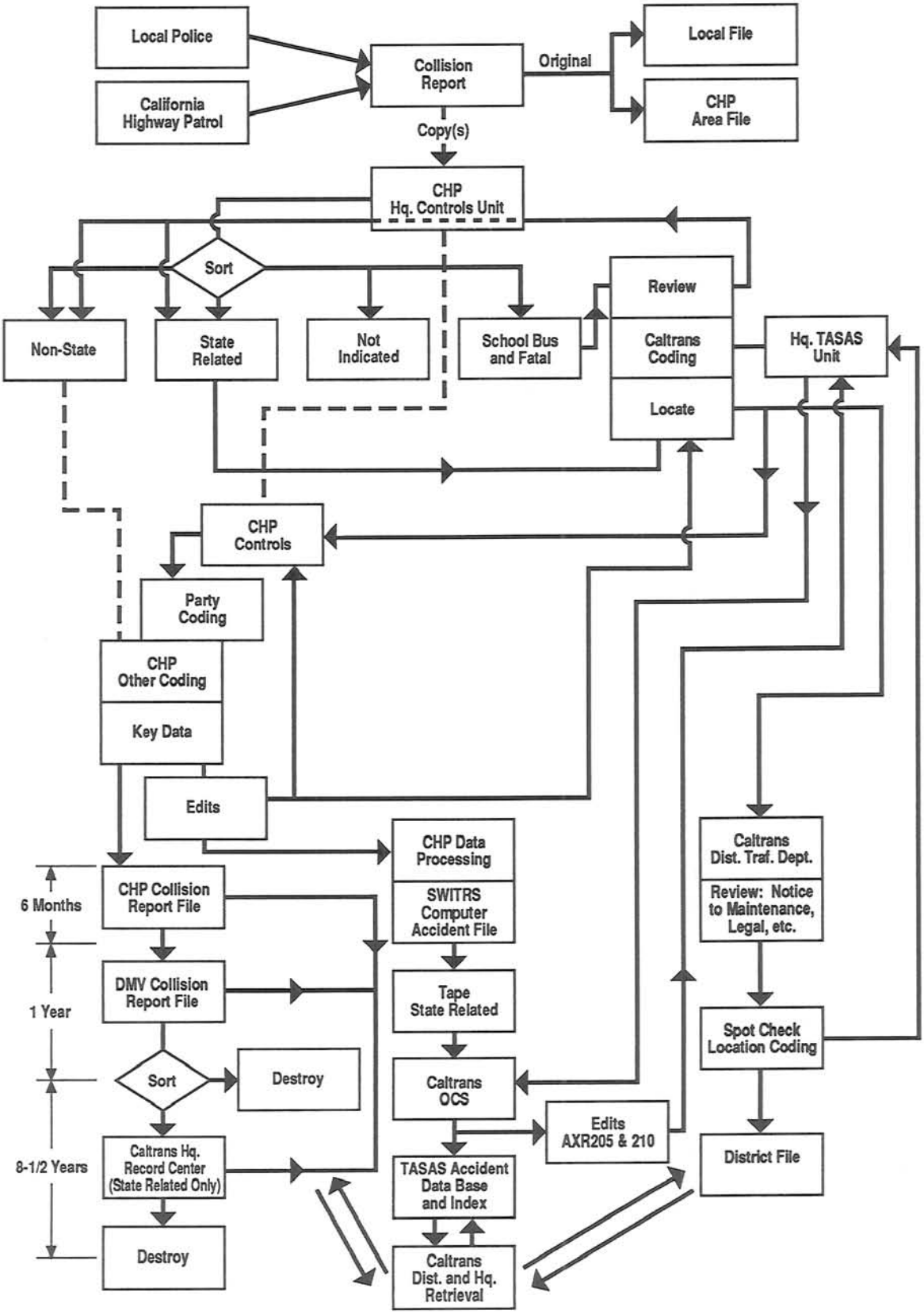
3-05.3 Responsibility for Maintaining and Updating AXDB

The general responsibilities of Headquarters and District Traffic Branches for the Accident Data Base are as follows:

A. HEADQUARTERS RESPONSIBILITIES:

1. Coordinate with various CHP SWITRS Units to receive and process State highway related collision reports.
2. Provide guidance for CHP party coding unit.
3. Provide accident kilometer post marker location personnel and supervision for review and processing collision reports.
4. In conjunction with CHP and DMV, maintain collision report file to include ten years plus the current.
5. In cooperation with Headquarters Office of Computer Systems personnel:
   a. Process SWITRS State related accident tapes and related edits.
   b. Provide training and consultation service to District TASAS personnel regarding accident retrieval and other TASAS program problems and/or questions.
   c. Identify and provide needed modifications, improvements and extensions of TASAS accident programs.

Figure 3-2
COLLISION REPORT FLOW CHART



d. Produce and distribute quarterly and annual reports.

e. Provide relocation, removal, addition, and correction for computer accident records.

f. Monitor TASAS EDP costs.

6. Provide manuals and other printed instructions.

7. Provide TASAS data and informational service to other Headquarters (HQ) units and other public and private agencies.

B. DISTRICT RESPONSIBILITIES:

1. Provide accident data and advisor service for the District Traffic Division and other district divisions.

2. Maintain a district collision report file sufficient to provide for district requirements (copies of reports from Caltrans HQ Record Center can be obtained when necessary).

3. Spot check and/or review kilometer post marker coding of collision reports and initiate necessary relocation and other correction processes.

4. Maintain liaison with local police departments, traffic departments and CHP area offices located within the district to encourage accurate and complete reporting.

5. Report problems, possible improvements or modifications to programs, manuals or other related items to HQ TASAS Unit.

6. Control use of "available upon request" programs so as to make economic use of TASAS accident programs.

3-05.4 TASAS Accident Output Reports

TASAS provides the following output reports:

1. TASAS Selective Accident Retrieval (TSAR) - Furnished on Request.

   A detailed list of accidents and/or summary is available for any type or types of accidents on any section of highway, any ramp or any intersection in the State Highway System. Accidents may be selected by location, highway characteristics, accident data codes or any combination of these.

2. Cumulative Number of Accidents by Kilometer Post Marker[1] (Table A) - Furnished Annually.

   Table A reports include cumulative totals for two time periods, 12 months and 36 months.

3. Selective Accident Rate Calculation (Table B) - Furnished on Request.

   Table B reports for accident data calculations are available for any highway or section of highway, any or all ramps, any or all intersections for any time period specified. The report shows both actual

[1] The TASAS Highway Data Base is currently available only in US values. Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.

and average rates. The report also shows total accidents, fatalities, injuries, multi-vehicles, wet, dark, persons killed and injured and the significance.

4. High Accident Concentration Locations (Table C) - Furnished Quarterly.

   Table C reports list high accident concentration locations. It counts the total number of accidents for 3, 6, 12, 24, and 36 month periods. It also calculates the actual rate and shows the average rate for the 12 month period. This report does have the option to consider highway segment lengths of up to 0.8 km.[1] Locations with total accidents of 4 or more and significance in the 3, 6, or 12 month period are flagged as requiring investigation.

5. Wet High Accident Concentration Locations (Wet Table C) - Furnished Annually.

   Wet Table C Reports list high wet accident concentration locations. It counts the total number of accidents for the 3, 6, 12, 24 and 36 month periods. It also shows the number of average wet accidents and calculates the actual rate for the 36 month period. Locations with 3, 6, 9 or more accidents and significance in the 12, 24 or 36 month periods respectively are flagged as requiring investigation.

Examples of the retrieval process, TSAR and Tables A, B, C, and Wet Table C are shown in Figures 3-4 through 3-12.

[1] The TASAS Highway Data Base is currently available only in US values. Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.

Figure 3-3
DATA RETRIEVAL PROCESS

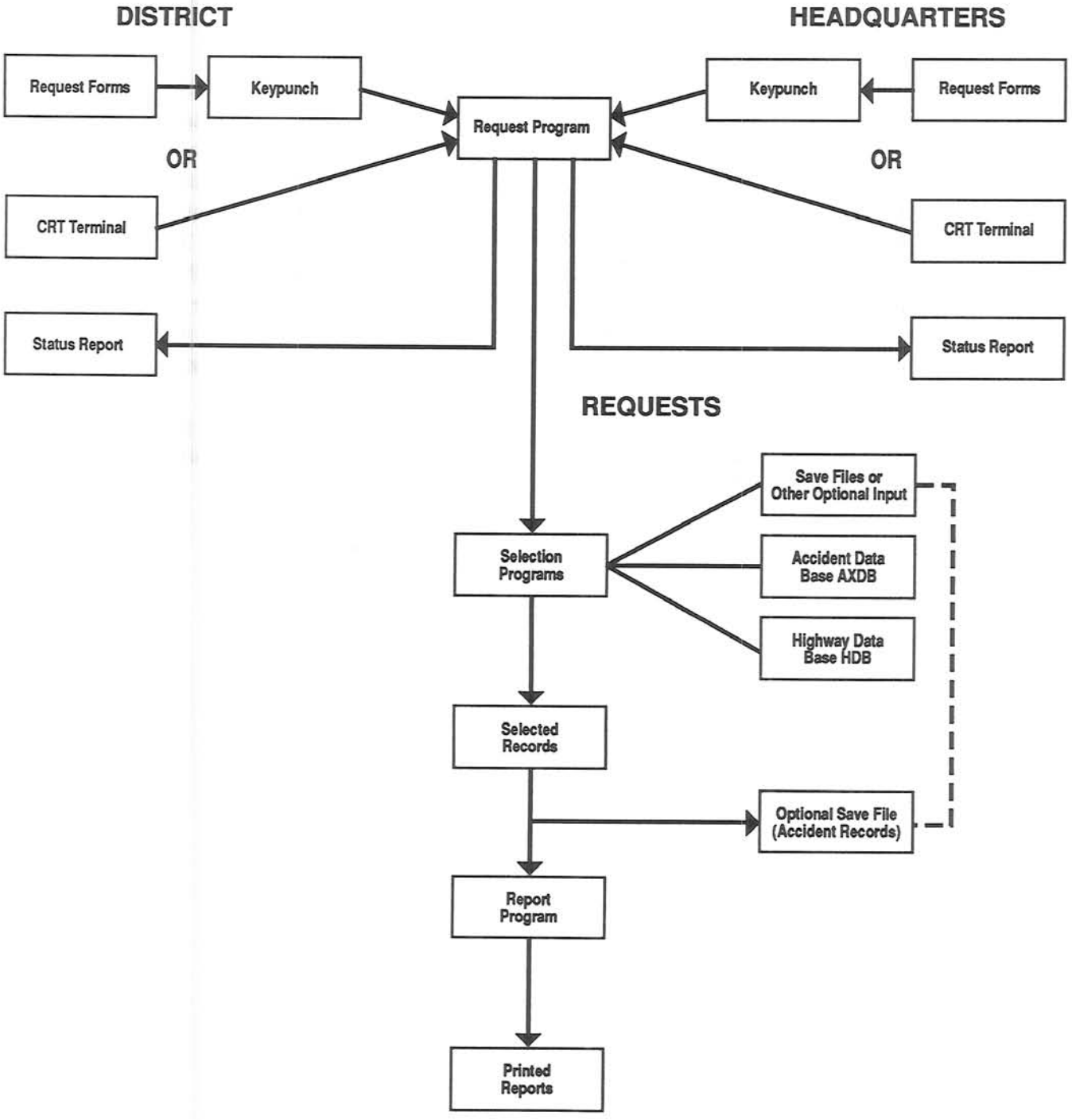


Figure 3-4
TSAR DETAIL

```
AXR330 ACC-DETAIL                    TASAS SELECTIVE RECORD RETRIEVAL                    07-09-96          PAGE    2
REQ NO 5739                ALL ACCIDENTS ON 03-SAC-16, 14.800/15.800, 07-01-87/06-30-90

      RTES       P LOC      <-----HIGHWAY-----> I S D    ACCIDENT          COMMON   P ENVIR R R T NO   P D V S PERSN O L O L O L O L OA M SD
        U        R POST     H A M B LANES RI F R O A      DATE    TIME    ACCIDENT C COND   C W O MTR  T I H I   K I   S O S O S O S O   F O  P
DIST NO F CO     E MILE     G C T A LT RT UO T L H Y MO DA YR HHMM      NUMBER   F W L S    C C VEH    R I             P C O C O C O C 12 V 12

 03  016  SAC   015.200  U C B Z 01 01 RO H - W 4 05-25-88 1200 925208198 D A A A H D E 02  A E 1 < 00 01 11H --- --- --- --- F< B A<
                                                                                           H W 1 < 00 00 --- --- --- --- --- 6M I A<
 03  016  SAC   015.280  U C B Z 01 01 RO H - E 6 04-28-89 0208 925208942 5 A D A H A E 01  D E 1 < 00 00 27B 14B 11B --- --- 4< C G<
 03  016  SAC   015.290  U C B Z 01 01 RO H - E 6 08-05-88 0300 925209316 5 A D A H D F 01  D E 1 < 00 01 44H --- --- --- --- N< C A<
 03  016  SAC   015.300  U C B Z 01 01 RO H - W 2 12-07-87 0740 925207065 6 A A A H D D 03  A W 1 < 00 00 --- --- --- --- --- 5< I G<
                                                                                           A E 1 < 00 00 V3F --- --- --- --- N< B A<
                                                                                           D E 1 < 00 00 V2F --- --- --- --- N< B A<
 03  016  SAC   015.330  U C B Z 01 01 RO H - E 5 08-25-88 0700 925204387 5 A A A H D F 01  G E 1 < 00 00 44G --- --- --- --- N< R A<
                                                                                           O < 1 < 00 00 --- 99H --- --- --- << < <<
 03  016  SAC   015.330  U C B Z 01 01 RO H - E 2 10-12-87 0100 925208192 D A D A H D E 01  M E 1 < 00 00 43H 11H 28H 17H N< C G<
 03  016  SAC   015.340  U C B Z 01 01 RO H - E 6 12-04-87 2200 925209316 1 B D B H D E 01  A E 1 < 00 01 11B 28B --- --- --- N< C B<
 03  016  SAC   015.350  U C B Z 01 01 RO H - E 5 08-24-89 0730 925210257 3 A A A H D B 03  A E 1 < 00 00 V2F --- --- --- --- N< B A<
                                                                                           D W 1 < 00 00 V1D --- --- --- --- N< N A<
                                                                                           D E 1 < 00 00 --- --- --- --- --- E< E A<
 03  016  SAC   015.360  U C B Z 01 01 RO H - E 4 06-14-89 1825 925210654 1 A A A H D F 01  D E 1 < 00 01 44B --- --- --- --- 4< C B<
 03  016  SAC   015.370  U C B Z 01 01 RO H - E 1 12-13-87 0715 925209040 4 A A A H D E 01  A E 1 < 00 01 11B --- --- --- --- F< C C<
 03  016  SAC   015.390  U C B Z 01 01 RO H - E 7 08-05-89 1240 925208198 C A A A H D E 01  F E 1 < 00 00 28H --- --- --- --- 6< C A<
 03  016  SAC   015.390  U C B Z 01 01 RO H - E 5 10-08-87 1525 925208198 5 A A A H D C 03  F E 1 < 00 00 V2F --- --- --- --- N< B A<
                                                                                           M E 1 < 00 01 V1F V3F --- --- --- N< A A<
                                                                                           A E 1 < 00 02 --- V2F --- --- --- N< E A<
 03  016  SAC   015.400  U C B Z 01 01 RO H - E 6 04-14-89 2210 925210257 1 A D A H D E 01  A E 1 < 00 01 11H 44H --- --- --- 4< C B<
 03  016  SAC   015.400  U C B Z 01 01 RO H - E 5 08-06-87 1400 925208648 5 A A A H D E 02  F E 1 < 00 01 11H --- --- --- --- 6< C A<
                                                                                           A W 1 < 00 00 --- V3F --- --- --- N< B A<
                                                                                           M E 1 < 00 00 --- 28H V2B --- --- << R <<
 03  016  SAC   015.590  U C B Z 01 01 RO H - W 7 09-09-89 1600 925210263 6 A A A H D F 01  C W 1 < 00 01 44H --- --- --- --- N< L C<
 03  016  SAC   015.600  U C B Z 01 01 RO H - W 1 08-16-87 1715 925209114 1 A A A H D C 03  A W 1 < 00 00 V3F --- --- --- --- N< A A<
                                                                                           D E 1 < 00 00 --- V3F --- --- --- N< B A<
                                                                                           D W 1 < 00 00 V1F V2D --- --- --- 5F B B<
 03  016  SAC   015.790  U C B Z 01 01 RO H - E 4 05-18-88 0450 925209080 C A D A H D H 01  A E 1 < 00 00 V2F --- --- --- --- N< B A<
                                                                                           X < - < 00 00 V1- --- --- --- --- << < <<
```

The TASAS Highway Data Base is currently available only in US values.
Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.

Figure 3-5
TSAR SUMMARY

AXR330 ACC-SUMMARY — TASAS SELECTIVE RECORD RETRIEVAL — 07-09-96 — PAGE 3
REQ NO 5739 — ALL ACCIDENTS ON 03-SAC-16, 14.800/15.800, 07-01-87/06-30-90

- - - ACCIDENT SUMMARY - - -

TOTAL ACCIDENTS	FATAL	INJURY	PDO	PERSONS KILLED	PERSONS INJURED
17	0	9	8	0	11
WITHOUT DETAIL 0					

MOTOR VEHICLES INVOLVED NUMBER	PCT	CODE
11	64.7	1
2	11.7	2
4	23.5	3
0	0.0	> 3

LINES CODED NUMBER	PCT	CODE
9	52.9	1
3	17.6	2
5	29.4	3
0	0.0	4
0	0.0	5
0	0.0	6
0	0.0	7
0	0.0	8
0	0.0	9

<--------HOUR OF DAY-------->

NUMBER	PCT	CODE
0	0.0	00- 12 MID.
1	5.8	01- 1 A.M.
1	5.8	02- 2 A.M.
1	5.8	03- 3 A.M.
1	5.8	04- 4 A.M.
0	0.0	05- 5 A.M.
0	0.0	06- 6 A.M.
4	23.5	07- 7 A.M.
0	0.0	08- 8 A.M.
0	0.0	09- 9 A.M.
0	0.0	10- 10 A.M.
0	0.0	11- 11 A.M.
2	11.7	12- 12 NOON
0	0.0	13- 1 P.M.
1	5.8	14- 2 P.M.
1	5.8	15- 3 P.M.
1	5.8	16- 4 P.M.
1	5.8	17- 5 P.M.
1	5.8	18- 6 P.M.
0	0.0	19- 7 P.M.
0	0.0	20- 8 P.M.
0	0.0	21- 9 P.M.
2	11.7	22- 10 P.M.
0	0.0	23- 11 P.M.
0	0.0	25- UNKNOWN

<-------ACCESS CONTROL---------->

NUMBER	PCT	CODE
17	100.0	C-CONVENTIONAL
0	0.0	E-EXPRESSWAY
0	0.0	F-FREEWAY
0	0.0	S-1-WAY CITY ST
0	0.0	--INVALID DATA
0	0.0	+-NO DATA

<-------SIDE OF HIGHWAY------>

NUMBER	PCT	CODE
0	0.0	N-NORTHBOUND
0	0.0	S-SOUTHBOUND
13	76.4	E-EASTBOUND
4	23.5	W-WESTBOUND

<-----------YEAR------->

NUMBER	PCT	CODE
0	0.0	1986
7	41.1	1987
4	23.5	1988
6	35.2	1989
0	0.0	1990
0	0.0	1991
0	0.0	1992
0	0.0	1993
0	0.0	1994
0	0.0	1995
0	0.0	1996
0	0.0	1997

<-------------MONTH----------->

NUMBER	PCT	CODE
0	0.0	01-JANUARY
0	0.0	02-FEBRUARY
0	0.0	03-MARCH
2	11.7	04-APRIL
2	11.7	05-MAY
1	5.8	06-JUNE
0	0.0	07-JULY
6	35.2	08-AUGUST
1	5.8	09-SEPTEMBER
2	11.7	10-OCTOBER
0	0.0	11-NOVEMBER
3	17.6	12-DECEMBER

<---------DAY OF WEEK-------->

NUMBER	PCT	CODE
2	11.7	1-SUNDAY
2	11.7	2-MONDAY
0	0.0	3-TUESDAY
3	17.6	4-WEDNESDAY
4	23.5	5-THURSDAY
4	23.5	6-FRIDAY
2	11.7	7-SATURDAY

The TASAS Highway Data Base is currently available only in US values.
Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.

Figure 3-6
TSAR SUMMARY-Continued

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AXR330 ACC-SUMMARY                    TASAS SELECTIVE RECORD RETRIEVAL                    07-09-96          PAGE    4
REQ NO 5739                 ALL ACCIDENTS ON 03-SAC-16, 14.800/15.800, 07-01-87/06-30-90

<-----PRIMARY COLLISION FACTOR--------> <----------TYPE OF COLLISION----------> <----------ROADWAY CONDITION----------->
   NUMBER    PCT   CODE                    NUMBER    PCT   CODE                    NUMBER    PCT   CODE
        4   23.5  1-INFLUENCE ALCOHOL          0    0.0  A-HEAD-ON                    0    0.0  A-HOLES, RUTS
        0    0.0  2-FOLLOW TOO CLOSE           1    5.8  B-SIDESWIPE                  0    0.0  B-LOOSE MATERIAL
        1    5.8  3-FAILURE TO YIELD           2   11.7  C-REAR END                   0    0.0  C-OBSTRUCTION ON ROAD
        1    5.8  4-IMPROPER TURN             1    5.8  D-BROADSIDE                  0    0.0  D-CONSTRUCT-REPAIR-ZONE
        5   29.4  5-SPEEDING                  8   47.0  E-HIT OBJECT                 0    0.0  E-REDUCED ROAD WIDTH
        2   11.7  6-OTHER VIOLATIONS          4   23.5  F-OVERTURN                   0    0.0  F-FLOODED
        0    0.0  B-IMPROPER DRIVING          0    0.0  G-AUTO-PEDESTRIAN            0    0.0  G-OTHER
        2   11.7  C-OTHER THAN DRIVER         1    5.8  H-OTHER                     17  100.0  H-NO UNUSUAL CONDITION
        2   11.7  D-UNKNOWN                   0    0.0  <-NOT STATED                 0    0.0  <-NOT STATED
        0    0.0  E-FELL ASLEEP               0    0.0  -INVALID CODES
        0    0.0  <-NOT STATED
        0    0.0  -INVALID CODES

<----------WEATHER----------> <----------LIGHTING----------> <----------ROAD SURFACE---------->
   NUMBER    PCT   CODE       NUMBER    PCT   CODE          NUMBER    PCT   CODE
       16   94.1  A-CLEAR          11   64.7  A-DAYLIGHT        16   94.1  A-DRY
        1    5.8  B-CLOUDY          0    0.0  B-DUSK/DAWN        1    5.8  B-WET
        0    0.0  C-RAINING         0    0.0  C-DARK-STREET LIGHT    0    0.0  C-SNOWY, ICY
        0    0.0  D-SNOWING         6   35.2  D-DARK-NO STREET LIGHT    0    0.0  D-SLIPPERY
        0    0.0  E-FOG             0    0.0  E-DARK-INOPR STREET LIGHT    0    0.0  <-NOT STATED
        0    0.0  F-OTHER           0    0.0  F-DARK-NOT STATED    0    0.0  -INVALID CODES
        0    0.0  <-NOT STATED      0    0.0  <-NOT STATED
                                              -INVALID CODES

<----------RIGHT OF WAY CONTROL----------> <----------HIGHWAY GROUP----------> <---INTERSECTION OR RAMP ACCIDENT LOCATION----->
   NUMBER    PCT   CODE                    NUMBER    PCT   CODE                    NUMBER    PCT   CODE
        1    5.8  A-CONTROL FUNCTIONING        0    0.0  R-IND. ALIGN-RIGHT           0    0.0  1-RAMP INTERSECTION (EXIT)
        0    0.0  B-CONTROL NOT FUNCTIONING    0    0.0  L-IND. ALIGN-LEFT            0    0.0  2-RAMP
        0    0.0  C-CONTROLS OBSCURED         0    0.0  D-DIVIDED                   0    0.0  3-RAMP ENTRY
       16   94.1  D-NO CONTROLS PRESENT       17  100.0  U-UNDIVIDED                 0    0.0  4-RAMP AREA, INTERSECT STREET
        0    0.0  <-NOT STATED                                                       0    0.0  5-IN INTERSECTION
                                                                                     0    0.0  6-OUTSIDE INTRSCT-NONSTATE RTE
                                                                                    17  100.0  --DOES NOT APPLY
```

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Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.

Figure 3-7
TSAR SUMMARY-Continued

```
AXR330 ACC-SUMMARY                    TASAS SELECTIVE RECORD RETRIEVAL                              07-09-96          PAGE    5
REQ NO 5739                ALL ACCIDENTS ON 03-SAC-16, 14.800/15.800,  07-01-87/06-30-90

                                - - - PARTY SUMMARY - - -

<----------PARTY TYPE----------> <---MOVEMENT PRECEDING COLLISION----> <----------SPECIAL INFORMATION---------->
  NUMBER   PCT  CODE                NUMBER   PCT  CODE                  NUMBER   PCT  CODE

      10  58.8 A-PASNGR CAR/STA WAGON      2  11.7 A-STOPPED                 0   0.0 A-HAZARDOUS MATERIALS
       0   0.0 B-PASNGR CAR W/TRALR        7  41.1 B-PROCEED STRAIGHT        0   0.0 B-FIRE INVOLVED
       1   5.8 C-MOTORCYCLE                9  52.9 C-RAN OFF ROAD            0   0.0 C-TIRE DEFECT/FAILURE
       6  35.2 D-PICKUP/PANEL TRUCK        0   0.0 D-MAKING RIGHT TURN       17 100.0 <-NOT STATED
       0   0.0 E-PICKUP/PANEL W/TRALR      2  11.7 E-MAKING LEFT TURN        0   0.0 --DOES NOT APPLY
       3  17.6 F-TRUCK/TRUCK TRACTOR       0   0.0 F-MAKING U TURN           0   0.0 -INVALID CODES
       1   5.8 G-TRK/TRACTOR & 1 TRALR     0   0.0 G-BACKING
       0   0.0 2-TRK/TRACTOR & 2 TRALR     0   0.0 H-SLOWING, STOPPING
       0   0.0 3-TRK/TRACTOR & 3 TRALR     2  11.7 I-PASS OTHER VEHICLE
       0   0.0 4-SINGLE UNIT TANKER        0   0.0 J-CHANGING LANES
       0   0.0 5-TRK/TRA & 1 TANK TRLR     0   0.0 K-PARKING
       0   0.0 6-TRK/TRA & 2 TANK TRLR     1   5.8 L-ENTER FROM SHLDR
       1   5.8 H-SCHOOL BUS                0   0.0 M-OTHER UNSAFE TURN
       0   0.0 I-OTHER BUS                 1   5.8 N-CROSS INTO OPP LN
       0   0.0 J-EMERGENCY VEHICLE         0   0.0 O-PARKED
       0   0.0 K-HIGHWAY CONST EQUIP       0   0.0 P-MERGING
       0   0.0 L-BICYCLE                   0   0.0 Q-TRVL WRONG WAY
       3  17.6 M-OTHER-MOTOR VEH           2  11.7 R-OTHER
       0   0.0 N-OTHER-NON-MOTOR VEH       2  11.7 <-NOT STATED
       1   5.8 O-SPILLED LOADS
       0   0.0 P-DISENGAGED TOW                    PEDESTRIAN
       0   0.0 Q-UNINVOLVED VEHICLE        0   0.0 2-XING XWALK-INTRST
       0   0.0 R-MOPED                     0   0.0 3-XING XWALK-NOT INTR
       0   0.0 T-TRAIN                     0   0.0 4-XING NOT XWALK
       0   0.0 U-PEDESTRIAN                0   0.0 5-ROADWAY-INCL SHLDR
       0   0.0 V-DISMOUNT PEDESTRIAN       0   0.0 6-NOT IN ROADWAY
       0   0.0 W-ANIMAL - LIVESTOCK        0   0.0 7-APRH-LEAVE SCHL BUS
       1   5.8 X-ANIMAL - DEER             0   0.0  -INVALID CODES
       0   0.0 Z-ANIMAL - OTHER            0   0.0

<------DIRECTION OF TRAVEL------>
  NUMBER   PCT  CODE

       0   0.0 N-N, NE, NW BOUND
       0   0.0 S-S, SE, SW BOUND
      16  94.1 E-EASTBOUND
       6  35.2 W-WESTBOUND
       2  11.7 <-NOT STATED
       0   0.0 --DOES NOT APPLY

<----------OTHER ASSOCIATED FACTOR---------->
                 # 1                  # 2
  NUMBER   PCT   CODE          NUMBER   PCT   CODE

       0   0.0  1-INFLUENCE ALCOHOL       0   0.0
       0   0.0  2-FOLLOW TOO CLOSE        0   0.0
       3  17.6  3-FAILURE TO YIELD        0   0.0
       2  11.7  4-IMPROPER TURN           0   0.0
       3  17.6  5-SPEEDING                0   0.0
       1   5.8  6-OTHER VIOLATIONS        0   0.0
       2  11.7  E-VISION OBSCUREMENT       0   0.0
       0   0.0  F-INATTENTION             1   5.8
       0   0.0  G-STOP & GO TRAFFIC       0   0.0
       0   0.0  H-ENTER/LEAVE RAMP        0   0.0
       0   0.0  I-PREVIOUS COLLISION      0   0.0
       0   0.0  J-UNFAMILIAR WITH ROAD    0   0.0
       0   0.0  K-DEFECT VEHICLE EQUIP    0   0.0
       0   0.0  L-UNINVOLVED VEHICLE      0   0.0
       0   0.0                            1   5.8
      11  64.7  N-NONE APPARENT           0   0.0
       0   0.0  P-WIND                    0   0.0
       0   0.0  R-RAMP ACCIDENT           0   0.0
       0   0.0  S-RUNAWAY VEHICLE         3  17.6
       0   0.0  <-NOT STATED             17 100.0
       0   0.0  --DOES NOT APPLY          0   0.0
```

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Figure 3-8
TSAR SUMMARY-Continued

AXR330 ACC-SUMMARY
REQ NO 5739

TASAS SELECTIVE RECORD RETRIEVAL 07-09-96 PAGE 6
ALL ACCIDENTS ON 03-SAC-16, 14.800/15.800, 07-01-87/06-30-90

OBJECT STRUCK PRIMARY NUMBER	OBJECT STRUCK PRIMARY PCT	OBJECT STRUCK OTHERS NUMBER	OBJECT STRUCK OTHERS PCT		LOCATION OF COLLISION PRIMARY NUMBER	LOCATION OF COLLISION PRIMARY PCT	LOCATION OF COLLISION OTHERS NUMBER	LOCATION OF COLLISION OTHERS PCT	LOCATION OF COLLISION CODE
0	0.0	0	0.0	01-SIDE OF BRIDGE RAILING	0	0.0	0	0.0	A-BEYOND MEDIAN OR STRIPE-LFT
0	0.0	0	0.0	02-END OF BRIDGE RAILING	4	23.5	3	17.6	B-BEYOND SHLDER DRIVERS LEFT
0	0.0	0	0.0	03-PIER,COLUMN,ABUTMENT	0	0.0	0	0.0	C-LEFT SHOULDER AREA
0	0.0	0	0.0	04-BOTTOM OF STRUCTURE	1	5.8	1	5.8	D-LEFT LANE
0	0.0	0	0.0	05 BRIDGE END POST IN GORE	0	0.0	0	0.0	E-INTERIOR LANES
0	0.0	0	0.0	06-END OF GUARD RAIL	5	29.4	3	17.6	F-RIGHT LANE
0	0.0	0	0.0	07-BRIDGE APPROACH GRD RAIL	1	5.8	0	0.0	G-RIGHT SHOULDER AREA
0	0.0	0	0.0	10-LIGHT OR SIGNAL POLE	7	41.1	4	23.5	H-BEYOND SHLDER DRIVERS RIGHT
5	29.4	2	11.7	11-UTILITY POLE	0	0.0	0	0.0	I-GORE AREA
0	0.0	0	0.0	12-POLE (TYPE NOT STATED)	0	0.0	0	0.0	J-OTHER
0	0.0	0	0.0	13-TRAFFIC SIGN/SIGN POST	0	0.0	0	0.0	V-HOV LANE(S)
0	0.0	1	5.8	14-OTHER SIGNS NOT TRAFFIC	0	0.0	0	0.0	W-HOV LANE BUFFER AREA
0	0.0	0	0.0	15-GUARDRAIL	0	0.0	0	0.0	<-NOT STATED
0	0.0	0	0.0	16-BARRIER	8	47.0	16	94.1	--DOES NOT APPLY
0	0.0	1	5.8	17-WALL(EXCEPT SOUND WALL)	0	0.0	0	0.0	-INVALID CODES
0	0.0	0	0.0	18-DIKE OR CURB					
0	0.0	0	0.0	19-TRAFFIC ISLAND					
0	0.0	0	0.0	20-RAISED BARS					
0	0.0	0	0.0	21-CONCRETE OBJ(HDWL,D.I.)					
0	0.0	0	0.0	22-GUIDEPOST,CULVERT,PM					
0	0.0	0	0.0	23-CUT SLOPE OR EMBANKMENT					
0	0.0	0	0.0	24-OVER EMBANKMENT					
0	0.0	0	0.0	25-IN WATER					
0	0.0	0	0.0	26-DRAINAGE DITCH					
1	5.8	0	0.0	27-FENCE					
1	5.8	3	17.6	28-TREES					
0	0.0	0	0.0	29-PLANTS					
0	0.0	0	0.0	30-SOUND WALL					
0	0.0	0	0.0	40-NATURAL MATRL ON ROAD					
0	0.0	0	0.0	41-TEMP BARRICADES, CONES					
0	0.0	0	0.0	42-OTHER OBJECT ON ROAD					
1	5.8	0	0.0	43-OTHER OBJECT OFF ROAD					
4	23.5	1	5.8	44-OVERTURNED					
0	0.0	0	0.0	45-CRASH CUSHION(SAND)					
0	0.0	0	0.0	46-CRASH CUSHION(OTHER)					
0	0.0	0	0.0	51-CALL BOX					
0	0.0	0	0.0	98-UNKNOWN OBJECT STRUCK					
0	0.0	1	5.8	99-NO OBJECT INVOLVED					
5	29.4	3	17.6	V1 THRU V9-VEHICLE 1 TO 9					
0	0.0	0	0.0	<<-NOT STATED					
7	41.1	16	94.1	.---DOES NOT APPLY					
0	0.0	0	0.0	-INVALID CODES					

SOBRIETY NUMBER	SOBRIETY PCT	DRUG/PHYSICAL NUMBER	DRUG/PHYSICAL PCT	DRUG/PHYSICAL CODE
10	58.8	0	0.0	A-HAD NOT BEEN DRINKING
4	23.5	0	0.0	B-HBD - UNDER INFLUENCE
2	11.7	0	0.0	C-HBD - NOT UNDER INFLUENCE
0	0.0	0	0.0	D-HBD - IMPAIRMENT UNKNOWN
0	0.0	0	0.0	E-UNDER DRUG INFLUENCE
0	0.0	0	0.0	F-OTHER PHYSICAL IMPAIRMENT
3	17.6	0	0.0	G-IMPAIRMENT NOT KNOWN
0	0.0	0	0.0	H-NOT APPLICABLE
0	0.0	0	0.0	I-FATIGUE
3	17.6	17	100.0	<-NOT STATED
0	0.0	0	0.0	--DOES NOT APPLY
		0	0.0	-INVALID CODES

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Figure 3-9
TASAS TABLE A

AXR250-A 05-15-96 TASAS TABLE A DISTRICT 03 PAGE 6
CUMULATIVE NUMBER OF ACCIDENTS BY POSTMILE
DISTRICT/ROUTE SEQUENCE
SINCE LAST SIGNIFICANT CHANGE

ROUTE 080 YOL

LOCATION	NO LNS	R S	***-----FROM 93-01-01 THRU 95-12-31----*** NUM ACC	TOT ACC	FAT	INJ	MULTI VEH	WET	DARK	KLD	PERSONS INJ	***-----FROM 95-01-01 THRU 95-12-31----*** TOTAL	FAT	INJ	MULTI VEH	WET	DARK	KLD	PERSONS INJ
93-01-01 THRU 95-12-31 NO SIGNIFICANT CHANGE																			
008.99	06D	U		390	3	148	216	96	152	3	219	135	0	43	78	38	54	0	61
009.00 *	06D	U	2	392	3	150	216	96	153	3	221	135	0	43	78	38	54	0	61
009.03	06D	U		393	3	151	216	96	154	3	224	135	0	43	78	38	54	0	61
009.06	06D	U		394	3	152	216	96	154	3	226	135	0	43	78	38	54	0	61
009.08	09D	U	3	397	3	154	218	98	155	3	232	137	0	44	79	40	55	0	63
009.09	09D	U		398	3	154	219	98	155	3	232	137	0	44	79	40	55	0	63
009.11 *	09D	U	3	401	3	155	221	98	155	3	233	138	0	44	80	40	55	0	63
009.13	09D	U		402	3	156	222	99	155	3	235	139	0	45	81	41	55	0	65
009.14	10D	U		403	3	157	222	99	155	3	236	140	0	46	81	41	55	0	66
009.15	10D	U		404	3	157	223	99	156	3	236	140	0	46	81	41	55	0	66
009.16	10D	U		405	3	157	224	99	157	3	236	140	0	46	81	41	55	0	66
009.17	10D	U	2	407	3	157	225	101	158	3	236	141	0	46	81	42	55	0	66
009.20	11D	U		408	3	157	226	101	158	3	236	142	0	46	82	42	55	0	66
009.22	11D	U		409	3	157	227	101	158	3	236	143	0	46	83	42	55	0	66
009.25	11D	U		410	3	158	227	101	158	3	237	143	0	46	83	42	55	0	66
009.28	11D	U		411	3	158	227	102	158	3	237	143	0	46	83	42	55	0	66
009.29	11D	U	2	413	3	159	228	102	159	3	238	144	0	46	83	42	55	0	66
009.30	11D	U	2	415	3	159	230	104	160	3	238	145	0	46	84	43	56	0	66
009.31	11D	U		416	3	160	231	104	161	3	243	145	0	46	84	43	56	0	66
009.32	11D	U		417	3	160	231	104	161	3	243	146	0	46	84	43	56	0	66
009.35 *	11D	U	13	430	3	165	235	112	165	3	248	152	0	48	86	46	57	0	68
009.37	12D	U		431	3	166	236	112	165	3	250	152	0	48	86	46	57	0	68
009.38	12D	U		432	3	166	237	112	166	3	250	153	0	48	87	46	58	0	68
009.40	12D	U	2	434	3	166	239	113	166	3	250	153	0	48	87	46	58	0	68
009.41	12D	U		435	3	166	240	113	166	3	250	154	0	48	88	46	58	0	68
009.45	12D	U	2	437	3	166	241	114	166	3	250	154	0	48	88	46	58	0	68
009.51	12D	U		438	3	166	242	114	166	3	250	154	0	48	88	46	58	0	68
009.52	12D	U		439	3	166	243	114	166	3	250	154	0	48	88	46	58	0	68
009.55	12D	U		440	3	166	244	114	166	3	250	154	0	48	88	46	58	0	68
R009.59 *	02D	U	2	442	3	168	246	114	167	3	252	154	0	48	88	46	58	0	68
R009.70	02D	U		443	3	169	246	114	167	3	253	154	0	48	88	46	58	0	68
R010.02	04D	U	2	445	3	171	246	114	169	3	256	156	0	50	88	46	60	0	71
R010.05	04D	U		446	3	171	246	114	170	3	256	156	0	50	88	46	60	0	71
R010.06	04D	U		447	3	171	246	114	171	3	256	156	0	50	88	46	60	0	71
R010.09	04D	U		448	3	171	247	114	171	3	256	157	0	50	89	46	60	0	71
R010.10	04D	U		449	3	172	247	114	171	3	257	157	0	50	89	46	60	0	71
R010.12	04D	U	2	451	3	173	249	114	172	3	259	159	0	51	91	46	61	0	73
R010.14	04D	U		452	3	173	250	114	172	3	259	159	0	51	91	46	61	0	73
R010.15	06D	U		453	3	173	251	115	172	3	259	159	0	51	91	46	61	0	73
R010.17 W CAPITOL AVE UC22-142R	06D	U	2	455	3	173	252	116	173	3	259	160	0	51	92	46	61	0	73
R010.19 END BR 22-142 LT	06D	U		456	3	174	253	116	173	3	260	160	0	51	92	46	61	0	73
R010.33	06D	U		457	3	174	253	116	174	3	260	160	0	51	92	46	61	0	73
R010.50	06D	U		458	3	174	253	116	175	3	260	161	0	51	92	46	62	0	73
R010.72	06D	U		459	3	174	253	116	176	3	260	161	0	51	92	46	62	0	73
R010.80	06D	U		460	3	174	254	116	177	3	260	161	0	51	92	46	62	0	73
R010.81	06D	U		461	3	174	255	116	177	3	260	161	0	51	92	46	62	0	73
R010.92	06D	U		462	3	174	256	116	177	3	260	162	0	51	93	46	62	0	73
R010.98	06D	U		463	3	174	256	116	177	3	260	162	0	51	93	46	62	0	73

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Figure 3-10
TASAS TABLE B

TASAS TABLE B DISTRICT 13
SELECTIVE ACCIDENT RATE CALCULATION
ROUTE SEQUENCE

AXR253-A 07-09-96 PAGE 1

LOCATION DESCRIPTION	RA GRP (RUS)	*-NUMBER OF ACCIDENTS/SIGNIFICANCE* TOT	FAT	INJ	MULTI F+I	VEH	WET	DARK	PER KLD INJ	*ADT * MAIN X-ST	TOTAL *-ACCIDENT RATE ACCS/MV+ OR MVM-* MV+ OR MVM	ACTUAL FAT	F+I	AVERAGE TOT	FAT	F+I	TOT
016 SAC 14.000 THRU SAC 017.000 03-0001 3.001M 93-01-01 95-12-31 36 MO	H04 (R)	36 H92	0	25 H99	25 H97	22	10 H99	15	0 37	9.9	32.40	.000	.77	1.11	.033	.45	.84
016 SAC 14.017 MEISS ROAD - RT 03-0002 93-01-01 95-12-31 36 MO	I17 (R)	3	0	2	2	3	0	1	0 3	10.7 .2	11.85+	.000	.17	.25	.004	.10	.22
016 SAC 15.993 DILLARD RD 03-0003 93-01-01 95-12-31 36 MO	I20 (R)	6	0	4	4	6	2	1	0 6	10.4 2.0	13.58+	.000	.29	.44	.009	.32	.69
016 SAC 16.294 KIEFER ROAD - LT 03-0004 93-01-01 95-12-31 36 MO	I17 (R)	1	0	0	0	1	0	0	0 0	10.4 .7	12.15+	.000	.00	.08	.004	.10	.22
016 SAC 16.764 LATROBE ROAD - LT 03-0005 93-01-01 95-12-31 36 MO	I17 (R)	0	0	0	0	0	0	0	0 0	10.3 .1	11.41+	.000	.00	.00	.004	.10	.22
016 SAC 16.831 IND10 DR - RT 03-0006 93-01-01 95-12-31 36 MO	I17 (R)	0	0	0	0	0	0	0	0 0	10.3 .1	11.39+	.000	.00	.00	.004	.10	.22

+ DENOTES MV USED IN RATES

**The TASAS Highway Data Base is currently available only in US values.
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Figure 3-11
TASAS TABLE C

AXR254-A 04-06-96

TASAS TABLE C POTENTIAL INVESTIGATION LOCATIONS .2 MILE
DISTRICT 03 DATA FOR 93-01-01 THRU 95-12-31
ALL ACCIDENTS
CONFIDENCE LEVEL 99.5 PERCENT

PAGE 1

LOCATION DESCRIPTION	SCL RMP LNS	R U S	RATE GRP	TOTAL ACCIDENTS 36 MO ACCS	24 MO ACCS	12 MO ACCS	6 MO ACCS	3 MO ACCS	AVE ADT 1000 VEH MAIN	X-ST	12 MOS RATE ACCS/MV-MVM ACTUAL F+I	ACTUAL TOT	AVERAGE F+I	AVERAGE TOT	INV REQ
005 COL R 1.846 TO R 2.046 NORTH	02D	R	H54	6 Y	5 Y	4 Y	2 N	2 N	12.7	-	2.19	4.37	0.22	0.46	REQ
005 COL R 3.666 TO R 3.866 SOUTH	02D	R	H54	6 Y	4 N	3 N	3 Y	0 N	12.6	-	0.00	3.27	0.22	0.46	
005 COL R 19.105 TO R 19.305 SOUTH	02D	S	H60	5 N	5 Y	3 N	1 N	0 N	11.3	-	1.23	3.68	0.22	0.53	
005 COL R 32.245 TO R 32.445 SOUTH	02D	R	H54	5 N	5 Y	2 N	1 N	1 N	11.4	-	2.43	2.43	0.22	0.45	
005 SAC 11.758 TO 11.958 NORTH	02D	R	H54	7 N	7 Y	4 N	0 N	0 N	21.5	-	0.00	2.54	0.25	0.52	
005 SAC 17.998 TO 18.198 NORTH	04D	U	H65	10 N	7 N	6 N	4 N	4 Y	42.5	-	0.65	1.94	0.24	0.70	REQ
005 SAC 23.041 SB OFF TO RTE 50	F	K U	R34	28 Y	19 Y	9 N	4 N	3 N	35.0	-	0.24	0.71	0.09	0.25 +	
005 SAC 23.118 TO 23.318 SOUTH	05D	U	H66	38 Y	26 Y	16 Y	9 Y	7 Y	63.0	-	1.09	3.49	0.20	0.60	REQ
005 SAC 23.238 TO 23.438 NORTH	05D	U	H66	16 N	13 N	8 N	6 Y	1 N	64.0	-	0.64	1.72	0.20	0.60	REQ
005 SAC 24.538 TO 24.738 NORTH	04D	U	H65	15 N	10 N	8 N	7 Y	5 Y	64.2	-	0.64	1.71	0.29	0.85	REQ
005 SAC 25.158 TO 25.358 SOUTH	04D	U	H65	23 Y	20 Y	10 N	8 Y	3 N	64.3	-	0.85	2.13	0.29	0.85	REQ
005 YOL 5.586 TO 5.786 SOUTH	02D	S	H60	3 N	3 N	3 N	3 N	3 Y	16.8	-	0.00	2.47	0.23	0.57	
005 YOL R 19.106 TO R 19.306 NORTH	02D	R	H54	3 N	3 N	3 Y	3 Y	2 N	8.6	-	0.00	4.78	0.21	0.43	
005 YOL R 22.226 TO R 22.426 NORTH	02D	R	H54	3 N	3 N	3 Y	2 N	1 N	8.6	-	1.60	4.80	0.21	0.43	
016 COL 3.760 TO 3.960	02U	R	H05	3 N	3 Y	1 N	0 N	0 N	0.7	-	0.00	18.73	1.22	2.25	
016 SAC 4.166 S WATT/ELK GROVE-FLORIN	XXX	U	I14	25 N	20 Y	10 N	7 N	4 N	12.2	19.0	0.00	0.88	0.20	0.45 +	
016 SAC 15.198 TO 15.398	02U	R	H04	10 Y	4 N	1 N	0 N	0 N	9.3	-	0.00	1.48	0.46	0.84	
016 SAC 22.418 TO 22.618	02U	R	H03	8 Y	5 N	4 N	2 N	1 N	7.5	-	5.49	7.33	0.76	1.45	
016 YOL 2.982 TO 3.182	02U	R	H05	4 Y	2 N	1 N	1 N	0 N	0.8	-	18.55	18.55	1.21	2.23	
016 YOL 20.907 TO 21.107	02U	R	H04	8 Y	6 Y	3 Y	2 N	1 N	3.5	-	7.82	11.73	0.49	0.90	
016 YOL 21.647 TO 21.847	02U	R	H04	8 Y	8 Y	3 Y	3 Y	0 N	3.6	-	7.51	11.26	0.49	0.90	
016 YOL 23.867 TO 24.067	02U	R	H04	5 Y	4 Y	3 Y	0 N	0 N	3.9	-	7.13	10.69	0.49	0.89	
016 YOL 24.787 TO 24.987	02U	R	H04	4 N	4 Y	1 N	0 N	0 N	4.0	-	0.00	3.42	0.48	0.89	
016 YOL 24.987 TO 25.187	02U	R	H04	4 N	4 Y	1 N	0 N	0 N	4.0	-	3.42	3.42	0.48	0.89	

REQ=INVESTIGATION REQUIRED (4 OR MORE ACCS. & SIGNIFICANT IN 12,6 OR 3 MONTHS)

\+ DENOTES MV USED IN RATES

The TASAS Highway Data Base is currently available only in US values. Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.

AXR254-A 10-14-95

TASAS TABLE C POTENTIAL INVESTIGATION LOCATIONS .2 MILE
DISTRICT 03 DATA FOR 92-07-01 THRU 95-06-30
WET ACCIDENTS
CONFIDENCE LEVEL 99.5 PERCENT

PAGE 1

LOCATION DESCRIPTION	SCL RMP LNS	R U S	RATE GRP	36 MO ACCS	24 MO ACCS	12 MO ACCS	6 MO ACCS	3 MO ACCS	AVE 1000 MAIN	ADT VEH X-ST	36 MOS NO OF F+I	AVERAGE ACC TOT	ACC & RATES RATE/MVM F+I	MV-MV TOT	HT-65 REQ
005 SAC 11.738 TO 11.938 NORTH	02D	R	H54	3 N	3 Y	3 Y	3 Y	0 N	21.1	-	0.16	0.33	0.86	1.79	REQ
005 SAC 12.188 SB ON FR LAGUNA BLVD	O L	R	R39	-	2 N	2 Y	0 N	0 N	0.8	-	0.03	0.10	0.73	2.62 +	
005 SAC 17.718 TO 17.918 NORTH	04D	U	H65	3 N	3 N	3 N	3 Y	0 N	41.7	-	0.29	0.84	0.80	2.30	
005 SAC 17.918 TO 18.118 NORTH	04D	U	H65	4 N	4 Y	3 N	2 N	1 N	41.7	-	0.29	0.84	0.80	2.30	
005 SAC 19.838 TO 20.038 SOUTH	04D	U	H65	3 N	3 N	3 N	3 Y	1 N	55.7	-	0.44	1.26	0.90	2.59	
005 SAC 22.172 NB OFF TO WB RTE 50	F C	U	R06	4 N	3 N	3 Y	3 Y	0 N	9.4	-	0.27	0.83	0.66	2.03 +	REQ
005 SAC 22.789 SB OFF TO EB 50 & X-3RD	F C	U	R06	25 Y	9 Y	4 N	3 N	1 N	37.7	-	1.08	3.34	0.66	2.03 +	REQ
005 SAC 23.138 TO 23.338 SOUTH	05D	U	H66	10 Y	8 Y	5 Y	4 Y	0 N	62.1	-	0.37	1.09	0.68	2.01	REQ
005 SAC 23.358 TO 23.558 NORTH	05D	U	H66	7 Y	6 Y	6 Y	0 N	0 N	62.7	-	0.37	1.11	0.68	2.02	REQ
005 SAC 24.788 SB OFF TO RICHARDS BLVD	F D	U	R10	4 N	4 N	3 N	3 Y	1 N	6.9	-	0.56	1.41	1.85	4.68 +	
005 SAC 25.178 TO 25.378 SOUTH	04D	U	H65	8 Y	6 Y	6 Y	4 Y	2 N	59.2	-	0.48	1.38	0.92	2.66	REQ
005 YOL R 18.686 TO R 18.886 SOUTH	02D	R	H54	2 N	2 N	2 Y	1 N	0 N	8.6	-	0.05	0.11	0.74	1.53	
016 SAC 14.278 TO 14.478	02U	R	H04	3 Y	1 N	1 N	0 N	0 N	10.3	-	0.13	0.25	1.48	2.72	
016 SAC 15.198 TO 15.398	02U	R	H04	3 Y	1 N	0 N	0 N	0 N	9.3	-	0.12	0.22	1.49	2.73	
016 YOL 23.847 TO 24.047	02U	R	H04	2 N	2 N	2 Y	2 Y	0 N	3.7	-	0.05	0.09	1.58	2.90	
016 YOL 25.355 SECOND ST - LT	---	R	I17	7 Y	5 Y	5 Y	2 Y	0 N	3.7	0.0	0.07	0.15	0.43	0.91 +	REQ
020 COL 11.140 TO 11.340	02U	R	H03	2 N	2 N	2 Y	2 Y	0 N	3.8	-	0.06	0.12	2.50	4.75	
020 COL 29.436 TO 29.636	02U	R	H02	2 N	2 N	2 Y	1 N	0 N	6.2	-	0.07	0.13	1.66	3.14	
020 COL 31.841 BRIDGE ST	-XX	R	I17	4 Y	2 N	1 N	1 N	0 N	10.9	2.1	0.19	0.40	0.44	0.93 +	
020 NEV 2.319 TO 2.519	02U	R	H03	4 Y	1 N	1 N	0 N	0 N	6.4	-	0.25	0.47	2.20	4.19	
020 NEV 30.217 TO 30.417	02U	R	H06	5 Y	5 Y	2 N	1 N	0 N	3.1	-	0.11	0.21	1.93	3.85	
020 SUT 15.573 JCT RTE 99	XXX	S	I09	9 N	5 N	5 N	4 Y	2 N	30.0	16.5	1.53	3.77	0.75	1.85 +	
020 SUT 15.810 GRAY AVE	XXX	U	I14	14 Y	11 Y	6 Y	2 N	1 N	33.3	19.4	1.61	3.66	0.70	1.59 +	REQ
049 ED 14.080 SKYLINE/COON HOLLOW RD	--X	U	I12	2 N	2 N	2 N	2 N	2 Y	5.3	0.4	0.15	0.35	0.40	0.93 +	

REQ=INVESTIGATION REQUIRED (9,6 OR 3 OR MORE ACCS. & SIGNIFICENT IN 36,24 OR 12 MONTHS, RESP.)

\+ DENOTES MV USED IN RATES

Figure 3-12
TASAS WET TABLE C

The TASAS Highway Data Base is currently available only in US values.
Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.

TASAS Highway Data Base 3-06

3-06.1 HDB General

The Highway Data Base (HDB) contains the current and historical descriptions of approximately 20,000 intersections, 13,000 ramps, and 24,400 km of highway segments in the State system.[1]

3-06.2 HDB Content

The Highway Data Base contains intersection, ramp, and highway segment records which contain the following information:

1. Location: District, route, county, kilometer post marker identification.

2. Highway group: Divided, undivided, independent alignment or unconstructed.

3. Descriptions: Bridges, ramps, intersections, etc.

4. Average daily traffic (ADT).

5. Federal aid system designations.

6. Other information needed for Federal Highway Administration reports.

7. Characteristics:

   The highway records provide the detail, design and geometric features relating to the main line, including access control, roadbed and median information.

   The intersection records describe and identify all intersections in the State Highway System including control, lighting, type, main line and cross street ADT information.

   The ramp records identify the specific location of all ramps connected to the highway, the type of ramp configuration, on or off, rural or urban and ADT with history.

3-06.3 Responsibility for Maintaining and Updating HDB (See Figure 3-13)

The responsibilities for maintaining and updating the Highway Data Base are assigned to Headquarters and District Traffic Divisions as follows:

A. HEADQUARTERS RESPONSIBILITIES

The Roadway Records Unit in Headquarters has the overall responsibility to maintain a Statewide Highway Data Base. All additions, deletions and corrections must be processed through this unit.

Specific responsibilities are as follows:

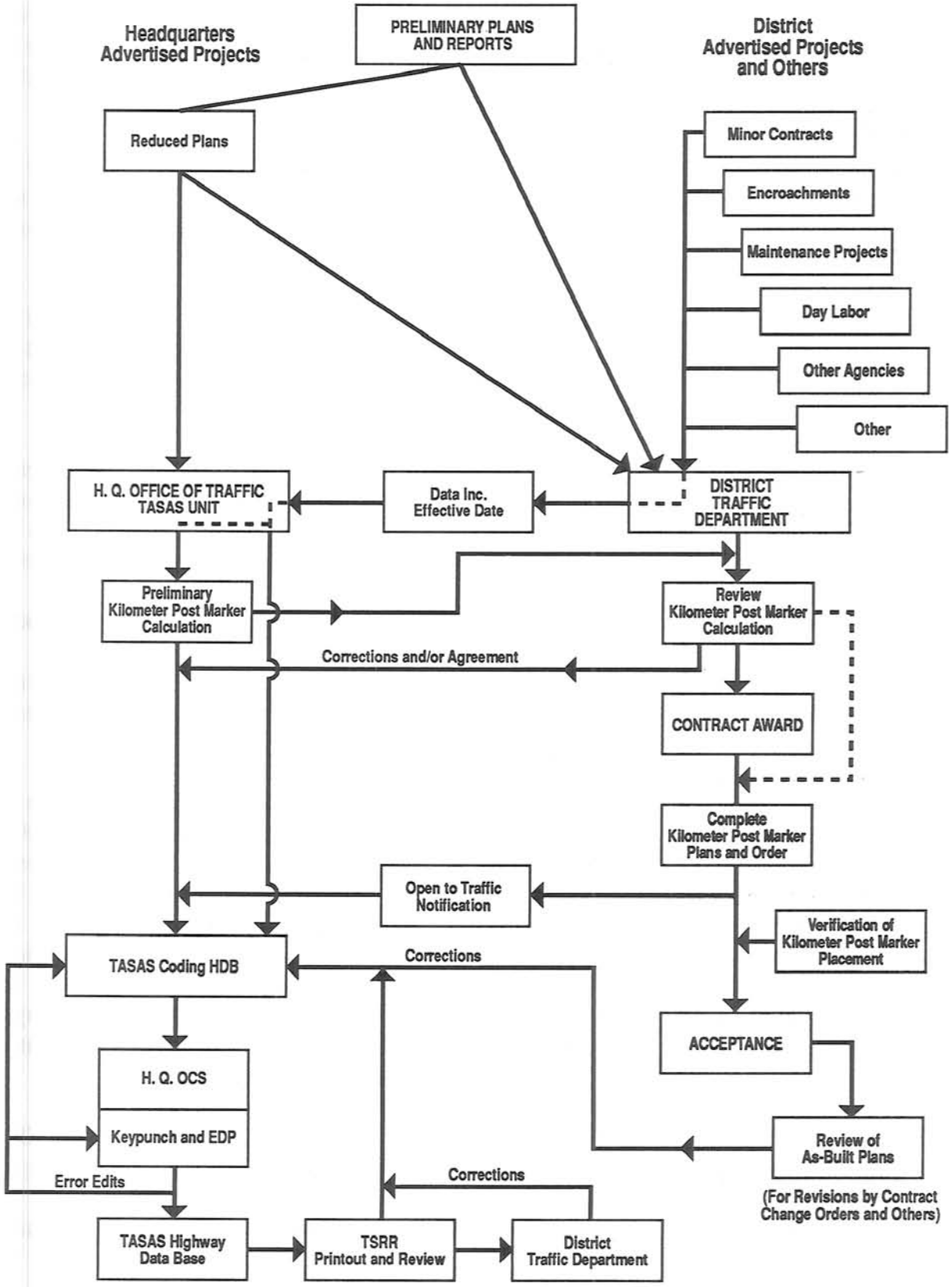
1. In cooperation with Headquarters Office of Computer Systems (Information Services) produce and distribute the California Highway Log and other data compilations.

2. Provide personnel to fulfill request for specialized compilations of data, and provide training and/or advisory service to other Headquarters units and districts.

3. Maintain a file of title sheets, reduced plans and kilometer post marker computations.

[1] The TASAS Highway Data Base is currently available only in US values. Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.

Figure 3-13
HIGHWAY DATA BASE FLOW CHART



4. Provide preliminary and final kilometer post marker computations for realignments, major improvements, and new route adoptions to districts and other Headquarters divisions.

5. Provide detailed coding of all roadway information to be processed into the HDB computer files.

6. Provide continuous maintenance of the HDB to ensure an up-to-date computer file.

7. Provide manuals and other printed instruction materials.

8. In cooperation with Headquarters Office of Computer Systems (Information Services), identify and provide needed modifications and improvements to the HDB.

B. DISTRICT RESPONSIBILITIES

1. Appoint an individual as District TASAS HDB Coordinator to maintain liaison with the Headquarters Roadway Records Unit, fulfill requests for roadway information, and collect and forward information regarding needed corrections and/or additions to the HDB.

2. Review Headquarters kilometer post marker calculations for being complete and correct.

3. After determination of kilometer post markers, prepare plans for installation of kilometer post markers, and verify accuracy of placement in the field to within 0.016 km.

4. Collect, compile, and forward to Headquarters data relative to the HDB for projects that are not advertised through Headquarters.

5. Notify Headquarters Roadway Records Unit of effective dates (open to traffic) of improvements for both Headquarters and district advertised projects.

6. Review "As-Built" plans and forward appropriate data to Headquarters to ensure that the HDB accurately reflects actual conditions.

7. Report problems, possible improvements or modifications to programs, manuals or other HDB related items to the Headquarters Roadway Records Unit.

3-06.4 TASAS Highway Data Base Output Reports

1. Multi-Retrieval Highway Data Base TSRR (AXR330) - Furnished on Headquarters Request.

   This program provides for the highway data base to be accessed and detailed records printed out for ramps, intersections and highway segments without having to access the accident file. The summary contains segment totals by various types and vehicle kilometers traveled. Selection of highway data base records may be made based upon various highway, intersection or ramp characteristics.

2. Actual Highway Data (AXRO85) - Furnished on Headquarters Request

   This report is a record of the actual contents stored in the highway data base. There are

four formats available: Current, Current with History, Previous and Previous with History. The contents are similar to AXR156, and include descriptions of major highway points (junction of State routes, bridges, structures, etc.). Segment lengths, Federal aid designations, left and right roadbed information, median information, traffic volume data, various effective dates, and other data are also included.

3. Actual Intersection Data (AXR085) - Furnished on Headquarters Request

   This report prints the detail information for all intersections on the State highway system currently open to traffic.

   The following information is provided in this report:

   a. Location: District, route, county and kilometer post marker.

   b. Name of cross street or intersecting State route.

   c. Type of intersection and effective date.

   d. Types of traffic control devices and street lighting.

   e. Intersecting street information: Number of lanes and ADT.

   f. Available for any intersection or group of intersections needed.

   There are four formats available for this report: Current, Current with History, Previous, and Previous with History.

4. Actual Ramp Data (AXR085) - Furnished on Headquarters request.

   This report prints the detail information for ramps on the State highway system currently open to traffic. A ramp is defined as a roadway connecting two State highways (one of which is a freeway), or connecting a freeway to a local street. A collector road in an interchange area is coded as a ramp.

   The following information is provided in this report:

   a. Location: District, route, county and kilometer post marker.

   b. Description, including the ramp direction such as southbound or northbound, on or off ramps. There is also a separate on-off field.

   c. Ramp type and effective date.

   d. Federal aid information.

   e. Ramp ADT as of the end of the calendar year.

   f. No totals are accumulated on this report.

5. Highway Characteristics Reference Table (AXRO82) - Furnished on Headquarters Request.

   This report lists highway segments, intersections and ramps. The report is available in current alignment only, prior alignment only, or combined current and prior alignment format.

The following information is provided in this report:

a. Location: District, route, county and kilometer post marker.

b. Highway group and facility type.

c. Highway segment length.

d. Effective date.

e. Description of intersections and ramps.

f. Current or prior indication.

g. Sequence number.

6. California State Highway Log (AXR156) - Furnished Annually.

The California State Highway Log contains a record for significant highway points in the State highway system which existed at the end of the calendar year.

The following data is provided by this log:

a. Description of every major highway point (Junction of State routes, bridges, structures, etc.).

b. Each record identified by kilometer post marker and given length to the next highway point.

c. Cumulative totals of road kilometers and daily vehicle kilometers at city limits, county lines and end of routes.

d. Federal aid designations

e. Type of pavement, width of pavement and shoulder information for left and right roadbeds.

f. Median Information.

g. Current roadway effective date and date of last significant change.

h. ADT (Average Daily Traffic).

i. Information organized in district-route order.

Examples of some of the various TASAS output reports from the Highway Data Base are shown on Figures 3-14 and 3-15.

Figure 3-14
TYPICAL HIGHWAY DATA BASE REPORT

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AXR085                         TRAFFIC ACCIDENT SURVEILLANCE AND ANALYSIS SYSTEM                          PAGE      1
                                  ACTUAL CURRENT HIGHWAY DATA WITH HISTORY                                11/14/90

P  POST P LENGTH E DATE  OF  H  A  ACC-CNTL  CITY RFF  FED  TNSTD  H              A D T   I N F O R M A T I O N                SEQ
P  MILE S        I  RECORD   G  C  EFF-DATE  CODE UAC  RTE  FLFNS  I EFF-DATE     LK-AHD   P  LK-BK  CHANGE/MILE     D V M     NUMBER

                             SIGNT           ( L E F T   R O A D B E D )        MEDIAN  INFORMATION      ( R I G H T   R O A D B E D )
                             CHANGE    N               NO S OT-SH T-W IN-SH S              T C B   V               NO S IN-SH T-W OT-SH S
        DESCRIPTION          EFF-DATE  A     EFF-DATE LN T TO TR WID TO TR F    EFF-DATE Y L A WDA     EFF-DATE LN T TO TR WID TO TR F

                                                        03-SAC-005

029.022  00.204    68-08-07  D  F  68-08-07  SAC  S01 1005   002FK  * 89-01-01 064000.000 P 066000  0000000.0000 00013056.000 0181354
                                                                    * 87-01-01 063000.000 P          0000000.0000
                                                                    * 86-01-01 054000.000 P          0000000.0000
                                                                    * 85-01-01 047000.000 P          0000000.0000
   DEL PASO RD OC 24-195     68-08-07  A     68-08-07 03 C 10 10 036 05 05 Z    68-08-07 J 6 Z 60Z     68-08-07 03 C 05 05 036 10 10 Z
029.226  00.273    68-08-07  D  F  68-08-07  SAC  S01 1005   002FK  * 89-01-01 064000.000 S          0000000.0000 00017472.000 0181414
                                                                    * 88-01-01 063000.000 S          0000000.0000
                                                                    * 87-01-01 063000.000 S          0000000.0000
                                                                    * 86-01-01 054000.000 S          0000000.0000
   AUX LN LT                 68-08-07  A     68-08-07 03 C 10 10 048 05 05 Z    68-08-07 J 6 Z 60Z     68-08-07 03 C 05 05 036 10 10 Z
029.499  00.036    68-08-07  D  F  68-08-07  SAC  S01 1005   002FK  * 89-01-01 064000.000 S          0000000.0000 00002304.000 0181454
                                                                    * 88-01-01 063000.000 S          0000000.0000
                                                                    * 87-01-01 063000.000 S          0000000.0000
                                                                    * 86-01-01 054000.000 S          0000000.0000
                             68-08-07  A     68-08-07 03 C 10 10 048 05 05 Z    68-08-07 J 6 Z 60Z     68-08-07 02 C 05 05 024 10 10 Z
029.535  00.163    68-08-07  D  F  68-08-07  SAC  S01 1005   002FK  * 89-01-01 064000.000 S          0000000.0000 00010432.000 0181474
                                                                    * 88-01-01 063000.000 S          0000000.0000
                                                                    * 87-01-01 063000.000 S          0000000.0000
                                                                    * 86-01-01 054000.000 S          0000000.0000
   END AUX LN LT             68-08-07  A     68-08-07 03 C 10 10 036 05 05 Z    68-08-07 J 6 Z 60Z     68-08-07 02 C 05 05 024 10 10 Z
029.698  00.174    68-08-07  D  F  68-08-07  SAC  S01 1005   002FK  * 89-01-01 064000.000 S          0000000.0000 00011136.000 0181494
                                                                    * 88-01-01 063000.000 S          0000000.0000
                                                                    * 87-01-01 063000.000 S          0000000.0000
                                                                    * 86-01-01 054000.000 S          0000000.0000
                             68-08-07  A     68-08-07 03 C 10 10 036 05 05 Z    68-08-07 J 6 Z 60Z     68-08-07 02 C 05 05 024 10 10 Z
029.872  00.035    68-12-18  D  F  68-12-18  SAC  S01 1005   002FK  * 89-01-01 064000.000 S          0000000.0000 00002240.000 0181534
                                                                    * 88-01-01 063000.000 S          0000000.0000
                                                                    * 87-01-01 063000.000 S          0000000.0000
                                                                    * 86-01-01 054000.000 S          0000000.0000
                             68-12-18  A     68-12-18 02 C 10 10 024 05 05 Z    68-12-18 J 6 Z 60Z     68-12-18 02 C 05 05 024 10 10 Z
029.907  00.061    68-12-18  D  F  68-12-18  SAC  S01 1005   002FK  * 89-01-01 044000.000 P 064000  0000000.0000 00002684.000 0181554
                                                                    * 88-01-01 042000.000 P          0000000.0000
                                                                    * 87-01-01 045000.000 P          0000000.0000
                                                                    * 86-01-01 038000.000 P          0000000.0000
   JCT99 N. 99/5SEP 24-241   68-12-18  A     68-12-18 02 C 10 10 024 05 05 Z    68-12-18 J 6 Z 60Z     68-12-18 02 C 05 05 024 10 10 Z
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**The TASAS Highway Data Base is currently available only in US values.
Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.**

Figure 3-15
TYPICAL HIGHWAY DATA BASE REPORT

AXR 082 DATE 12/29/90 TRAFFIC ACCIDENT SURVEILLANCE AND ANALYSIS SYSTEM PAGE 2
HIGHWAY CHARACTERISTICS REFERENCE TABLE

CL // PE	SEQ.	CO.	POSTMILE	DIST 11 RTE 005 DIR S-N G RF	PT LENGTH	C/P EFF. DATE	DESCRIPTION
C	0003328	SD	004.804	DR		730802	NB ON FR PALM AVE/75
C	0003329	SD	004.739	DR		730802	SEG NB ON FR SB RTE 75
C	0003330	SD	004.738	DR		730802	SEG NB ON FR NB PALM
C	0003341	SD	004.848	DR		730802	SBOFF TO PALM AVE/75
C	0003400	SD	005.009	DH	00.032	640101	OTAY RIVER 57 246
C	0003500	SD	005.041	DH	00.051	640101	
C	0003600	SD	005.092	DH	00.055	640101	OTAY RIV OVFL 57 263
C	0003700	SD	005.147	DH	00.257	640101	
C	0003750	SD	005.391	DR		730802	NB OFF TO MAIN ST
C	0003900	SD	005.404	DH	00.526	640101	MAIN ST OC 57-112
C	0003910	SD	005.455	DR		730802	SB ON FR MAIN ST
C	0003920	SD	005.531	DR		730802	NB ON FRM MAIN ST
C	0003930	SD	005.609	DR		730802	SB OFF TO MAIN ST
C	0003980	SD	005.902	DR		730802	NB OFF TO PALOMAR ST
C	0004000	SD	005.930	DH	00.126	640101	
C	0004040	SD	005.952	DR		730802	SB ON FR PALOMAR ST
C	0004200	SD	006.056	DH	00.751	640101	PALOMAR ST OC 57-354
C	0004250	SD	006.164	DR		730802	NB ON FRM PALOMAR ST
C	0004280	SD	006.194	DR		730802	SB OFF TO PALOMAR ST
C	0004300	SD	006.570	DR		730802	NBOFF TO INDUSTRIAL
C	0004320	SD	006.575	DR		730802	SB ON FRM BAY BLVD
C	0004340	SD	006.700	DR		730802	NB ON FRM INDUSTRIAL BL
C	0004345	SD	006.767	DR		730802	SB OFF TO BAY BLVD
C	0004350	SD	006.807	DH	00.093	640101	L STREET OC 57-709
C	0004400	SD	006.900	DH	00.400	640101	
C	0004410	SD	007.171	DR		730802	NB OFF TO J ST
C	0004420	SD	007.172	DR		730802	SB ON FRM J ST
C	0004450	SD	007.300	DH	00.026	640101	J STREET UC 57-710
C	0004470	SD	007.326	DH	00.120	640101	
C	0004480	SD	007.414	DR		730802	SB OFF TO J ST
C	0004490	SD	007.434	DR		730802	NB ON FRM J ST
C	0004500	SD	007.446	DH	00.103	640101	
C	0004550	SD	007.549	DH	00.056	640101	J STREET CHANN
C	0004600	SD	007.605	DH	00.148	640101	
C	0004620	SD	007.676	DR		730802	NB OFF TO H ST
C	0004640	SD	007.687	DR		730802	SB ON FRM H ST
C	0004700	SD	007.753	DH	00.059	640101	
C	0004900	SD	007.812	DH	00.058	640101	H STREET OC 57-256
C	0005000	SD	007.870	DH	00.441	640101	
C	0005020	SD	007.931	DR		730802	NB ON FRM H ST
C	0005040	SD	007.969	DR		730802	SB OFF TO H ST
C	0005100	SD	008.311	DH	00.014	640101	F ST OC 57-711
C	0005110	SD	008.325	DH	00.145	640101	F ST UP 57-712
C	0005120	SD	008.423	DR		730802	NB OFF TO E ST
C	0005140	SD	008.440	DR		730802	SB ON FRM E ST
C	0005200	SD	008.470	DH	00.092	640101	
C	0005400	SD	008.562	DH	00.078	640101	E STREET OC 57-250
C	0005500	SD	008.640	DH	00.181	640101	
C	0005530	SD	008.721	DR		730802	NB ON FRM E ST
C	0005560	SD	008.722	DR		730802	SB OFF TO E ST
C	0005600	SD	008.821	DH	00.225	640101	
C	0005700	SD	009.046	DH	00.022	640101	S CH SWTHTR RIV 57-244
C	0005900	SD	009.068	DH	00.041	640101	
C	0006000	SD	009.109	DH	00.124	640101	END BR 57-244
C	0006050	SD	009.233	DH	00.107	640101	
C	0006080	SD	009.340	DH	00.041	640101	
C	0006100	SD	009.381	DH	00.271	640101	JC ST 54 FAP 101 UNC E
C	0006300	SD	009.652	DH	00.032	640101	
C	0006400	SD	009.684	DH	00.136	640101	
C	0006440	SD	009.820	DH	00.060	640101	
C	0006450	SD	009.838	DR		640101	SB ON FROM 24TH ST
C	0006500	SD	R009.880	DH	00.134	640101	
C	0006550	SD	R009.893	DR		640101	NB OFF TO 24TH ST
C	0006600	SD	R010.014	DH	00.006	640101	PARADISE CR RCB 57-483
C	0006700	SD	R010.020	DH	00.022	640101	
C	0006900	SD	R010.042	DH	00.029	650819	24TH ST UC 57 251
C	0007000	SD	R010.071	DH	00.317	650819	
C	0007030	SD	R010.213	DR		650819	SB OFF TO 24TH ST
C	0007060	SD	R010.244	DR		650819	NB ON FROM 24TH ST
C	0007100	SD	R010.388	DH	00.023	650819	19TH ST UC BR 57-464
C	0007200	SD	R010.411	DH	00.020	650819	END BR 57-464
C	0007300	SD	R010.431	DH	00.020	650819	18TH ST UC BR 57-252
C	0007400	SD	R010.451	DH	00.214	650819	END BR 57-252
C	0007440	SD	R010.505	DR		650819	NB OFF TO HARBOR DR

The TASAS Highway Data Base is currently available only in US values.
Users requiring metric values can apply a conversion factor of 1.6093 to obtain a metric value in kilometers.

NOTICE

The following pages regarding Kilometer Post Markers are for future application. These pages will apply after the field conversion of existing markers and conversion of the Highway Data Base.

The existing markers in the field are in English units (miles). The markers in the field are not to be mixed, metric and English, nor is a dual system contemplated. Installation of new markers, replacement of missing markers, and correction (relocation) of existing markers will be done in English units (miles). The previous policies of calculation, lateral placement, and spacing for two lane roads and divided roads and rural and urban will remain effictive until such time as a full field conversion program is applied.

Kilometer Post Markers 3-07

3-07.1 General

The kilometer post markers in the field are used by traffic officers, maintenance forces and others to locate specific incidents or features with reference to the kilometer post marker system. The kilometer post marker is integral to the kilometer post marker system and shall not be used for additional marker functions. Other types of markers shall not be used as kilometer post markers. The kilometer post marker shall indicate the route, county, and kilometer post marker of the installation; only kilometer post markers shall contain the route and county designation.

Reference is made to Section 3-06.3 and Figure 3-13 of this manual as to the responsibility for kilometer post markers.

3-07.2 Kilometer Post Marker Calculations

For Headquarters advertised projects the Roadway Records Unit of Headquarters Traffic shall calculate preliminary kilometer post marker values. After review and agreement by the District Traffic Branch, these kilometer post marker values are used to prepare plans for placement of kilometer post markers.

For projects not advertised through Headquarters, the District Traffic Branch shall be responsible for liaison with District Construction, and/or Maintenance Branches, other agencies, etc., for obtaining data to update the HDB and calculate kilometer post markers. This material is to be transmitted to the Roadway Record Unit in Headquarters and after review and agreement between Headquarters and district the calculated kilometer post markers are used to prepare plans or lists for placement of kilometer post markers.

3-07.3 Placement of Markers

A. Rural Areas (See Figure 3-16).

1. Two-Lane Roads.

   Markers are placed 1.6 km apart on both sides of the highway, staggered by 0.8.

2. Divided Roads

   Markers are placed 1.6 km apart on both sides of the highway at the same kilometer post marker location.

B. Urban Areas (See Figure 3-16).

1. Two-lane roads.

   Markers are placed 0.8 km apart on each side of the highway, staggered by 0.4 km.

2. Divided roads.

   Markers are placed 0.8 km apart on each side of the highway at the same kilometer post marker location.

3. See 'D' see below.

C. Maximum Spacing.

When a regular marker falls within 0.4 km of a landmark (bridge, etc.), the 1.6 km or 0.8 km marker may be omitted. The intent is to have kilometer post markers spaced no farther apart than 1.6 km on rural highways, or 0.8 km on urban highways. This is a maximum spacing. Additional markers may be placed in areas where it is desired to have additional highway reference points.

D. Incorporated or Suburban Areas.

Kilometer post markers may be omitted in communities with city-street characteristics of curb, gutter, sidewalks and local development. In these areas, intersecting streets would be used as reference points in lieu of markers.

E. Kilometer Post Marker at County Lines.

At county lines, the county names and kilometer post marker information are delineated on separate markers and mounted side-by-side on separate posts, facing both directions of traffic.

F. Kilometer Post Marker Equation.

1. Kilometer post marker equation with a difference in value of 0.03 km or more shall be posted on the highway.

2. Each side of the equation is shown on separate markers and mounted side-by-side on separate posts, both facing the direction of traffic. See Figure 3-17.

3. Current kilometer post marker letter prefix and suffix codes are listed in the State Highway Log. They are also defined in the TASAS Manuals. All prefix letters shall be shown on the kilometer post markers. The suffix letter E identifies a kilometer post marker equation. In the field, the letter E is replaced with BK (Back) and AH (Ahead) on separate markers, placed side-by-side.

3-07.4 Kilometer Post Markers for Structures

1. Kilometer Post Markers

Kilometer post marker or G11 signs shall be mounted on, or placed at bridge abutments and at the beginning of bridge rails.

On skewed structures the kilometer post marker will not necessarily be identical on each side of the highway. The kilometer post marker on each side of the highway is the kilometer point of the centerline opposite the marker location. See Figures 3-18 and 3-19.

2. Highway Log Kilometer Post Marker Values.

   a. Overcrossing and Underpass.

      The Highway Log kilometer post marker for an overcrossing or underpass is measured from the centerline or layout line of the structure where it intersects the centerline of the highway. This rule applies to all structures crossing over the highway regardless of the skew. See Figure 3-18.

   b. Undercrossings, Overheads and Bridges.

      Single Structure: The Highway Log kilometer post marker is measured along the construction line as shown on the contract plans. The value is assigned to the paving notch at the end of the structure. See Figure 3-19.

      Divided or Separated Structures on Divided Highways: The Highway Log kilometer post marker is measured along the construction centerline of each structure. The value is assigned to the paving notch at the end of the structures. Depending on the width of the median and the skew, two kilometer post marker values may be assigned to each end. See Figure 3-19.

3-07.5 Plans for Placement of Kilometer Post Markers

The preparation of plans for placement of kilometer post markers shall be the responsibility of the District Traffic Branch. These plans may be combined with other traffic plans for striping, signing, etc., where possible. In some instances, plans may not be required and a list of markers to be placed may be sufficient.

Orders for kilometer post markers should be combined with orders for other types of markers whenever possible. The orders should be placed well enough in advance to ensure that the markers will be in place when the facility is opened to traffic.

3-07.6 Kilometer Post Markers

Dimensions, lettering and positioning standards are included in the Standard Plans.

Kilometer post markers shall not be reflectorized. If a kilometer post marker should fall within a line of guide markers, it shall be placed in a manner that will not interfere with the guide marker pattern. Kilometer post markers are not to be used as guide markers, clearance markers, culvert markers, etc.

3-07.7 Kilometer Post Marker Installation and Verification

Kilometer post markers shall be placed a minimum of 0.6 m and not more than 3.6 m beyond the edge of shoulder on the right side of the highway facing traffic. Generally, they should be placed in such a position as to minimize interference with maintenance.

When installed behind guardrail, the marker shall be placed so that the entire legend is legible from the road.

Stenciling of the kilometer post marker on concrete median barriers is permissible in addition to, but not in place of the regular kilometer post markers. This is an additional aid for maintenance and accident investigation forces.

All markers shall be located to an accuracy of 15 m on the ground. The value shown on the marker shall be to the nearest 0.015 of a kilometer (15 m), and shall reflect the kilometer point of the centerline opposite the marker location.

The District Traffic Branch shall have the responsibility to verify the accuracy of the placement of kilometer post markers. Periodic field review and inspection should be conducted to repair or replace damaged or illegible markers. Any markers found to be more than 15 m from the intended location must be relocated.

3-07.8 Correction of Existing Markers

Reports of incorrect kilometer post markers may originate from various sources. The District Traffic Branch and the Roadway Records Unit of Headquarters Traffic must be in agreement as to which field markers will be corrected and which accident records will be relocated before any action is initiated.

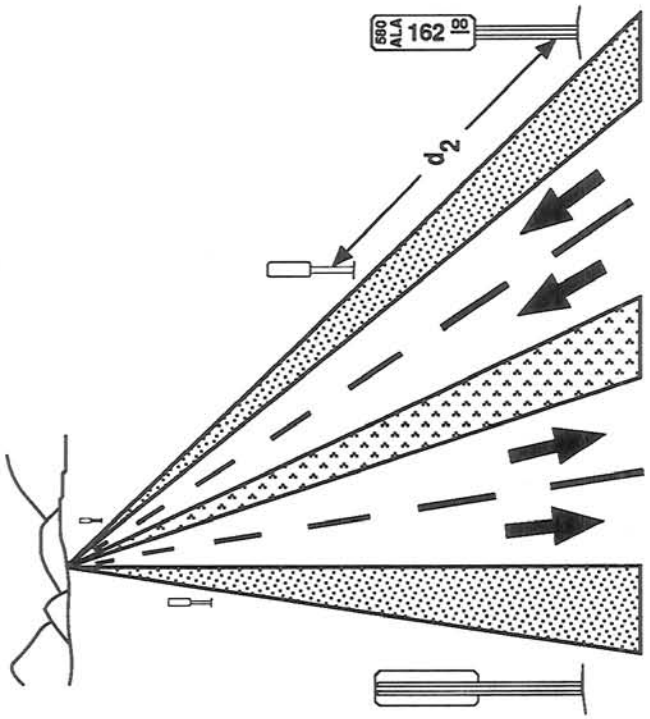
3-07.9 Financing

1. Replacement of existing markers which are destroyed or damaged beyond repair shall be financed from Maintenance funds.

2. The placement of additional or revised markers due to route redesignations, adoptions or major errors shall be financed from HB1 Safety Improvement Funds. Use the blanket Expenditure Authorization funds (EA) for installations under $2,000.00. Individual EAs are required for installations over $2,000.00.

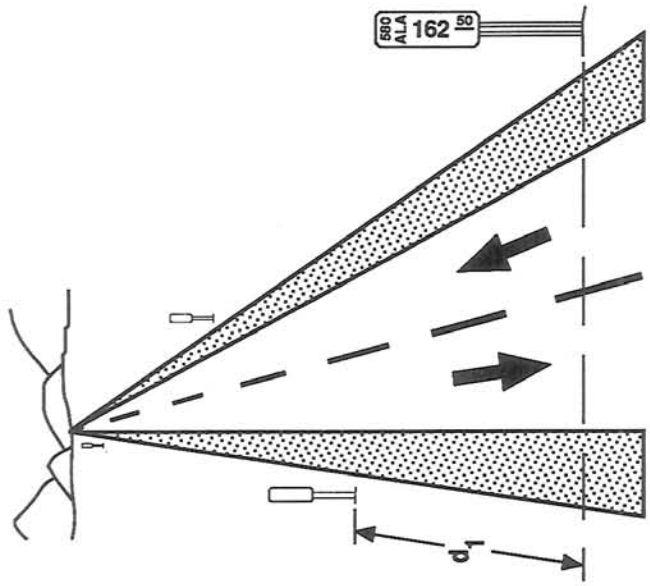
3. Placement of markers on new construction shall be financed from the contract allotment.

Figure 3-16
PLACEMENT OF KILOMETER POST MARKERS



Multi-Lane

d_2 = 1.6 kilometer apart Rural
0.8 kilometer apart Urban



Two-Lane

d_1 = 0.8 kilometer apart Rural
0.4 kilometer apart Urban

Figure 3-17
KILOMETER POST MARKER EQUATIONS

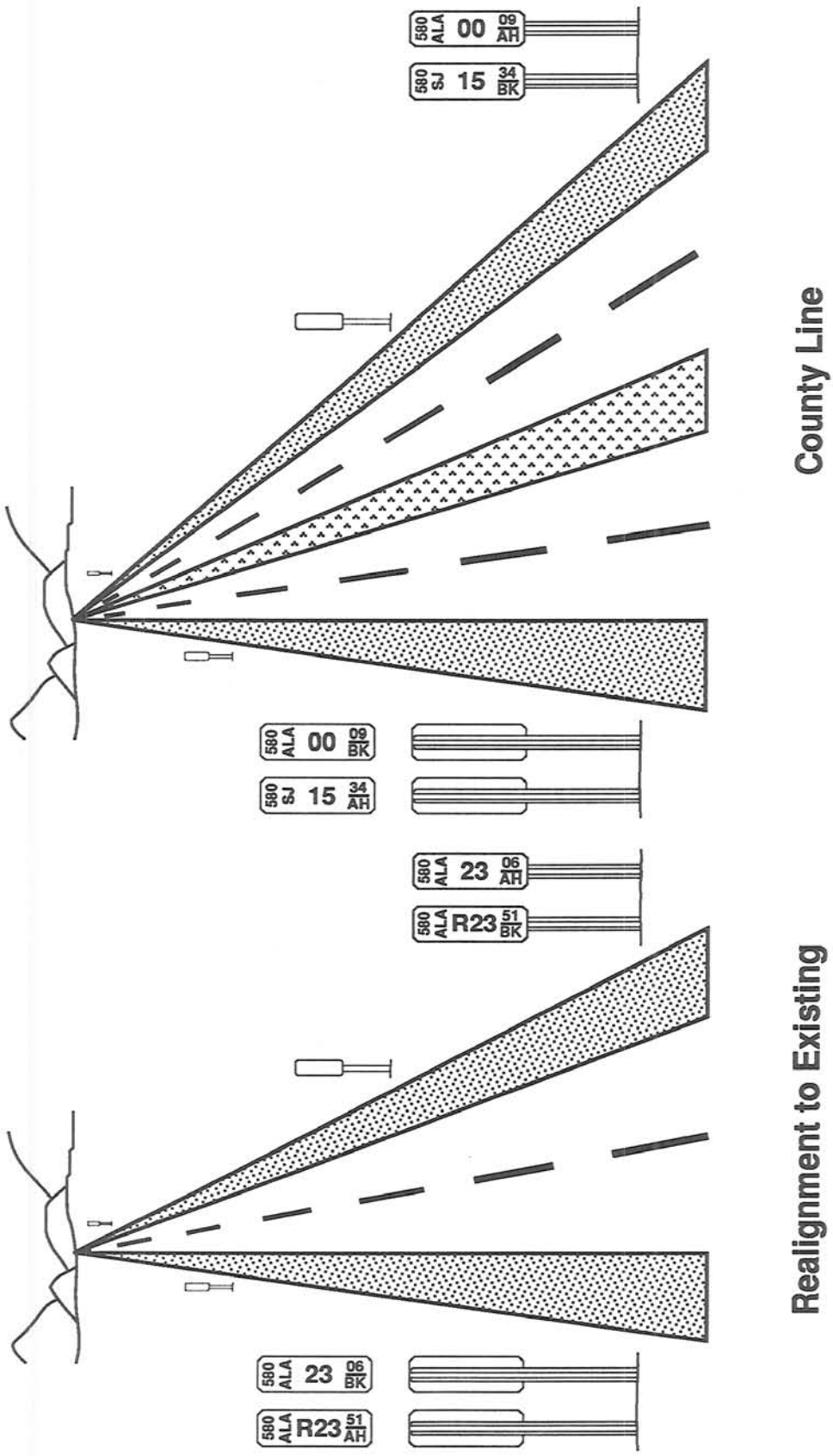


Figure 3-18
SKEWED OVERCROSSING

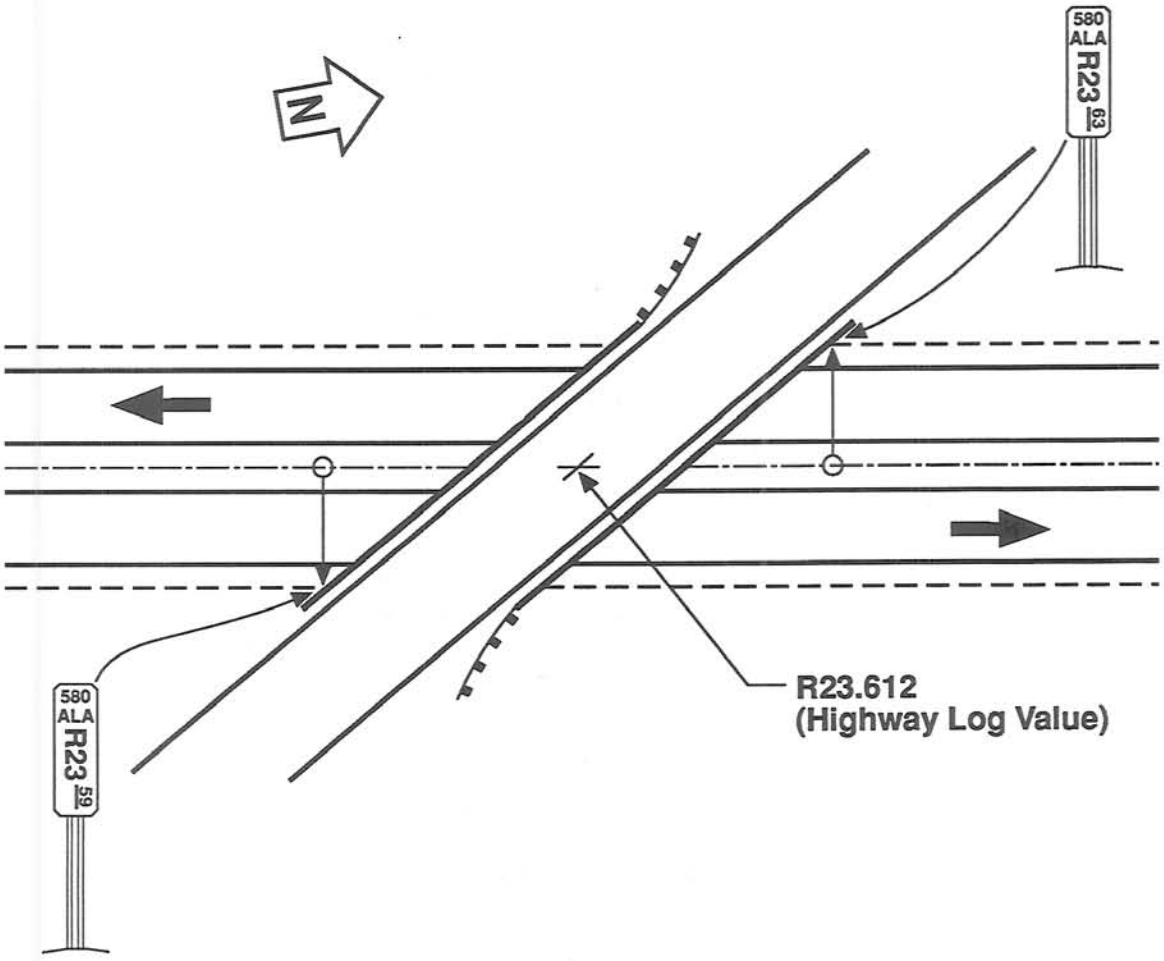


Figure 3-19
KILOMETER POST MARKERS FOR STRUCTURES